SR 167
Puyallup to SR 509

SR 167 Puyallup River Bridge Replacement
DRAFT Supplemental EIS
December 2012

Lead Agencies

U.S. Department of Transportation
Federal Highway Administration

Washington State Department of Transportation

Cooperating Agencies

Army Corps of Engineers

City of Fife

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FHWA-WA-EIS-2002-02-DS

SR 167

Puyallup to SR 509
Pierce County, State of Washington

(Draft) Supplemental Environmental Impact Statement

Submitted Pursuant to Section 42 U.S.C. 4332(2)(c) and RCW 43.21C
by the
Federal Highway Administration, and
Washington State Department of Transportation

12/21/2012
Date of Approval

Megan White
P.E. Environmental Services Office Director
Washington State Department of Transportation

1/7/2013
Date of Approval

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This Supplemental EIS documents the SR 167, Puyallup River Bridge Replacement project, which is a phase of the larger SR 167 Extension project. This phase of the project proposes to provide bridges and a roadway profile compatible with the SR 167, Puyallup to SR 509 extension project.

The SR 167 Extension project proposes to construct an extension of the SR 167 freeway from SR 161 (Meridian Street North) in the city of Puyallup to the SR 509 freeway in the city of Tacoma. The 2006 FEIS evaluated the mainline alignment as proposed in Tier I and multiple design options at the SR 509, 54 Avenue East, Interstate 5, Valley Avenue and SR 161 interchanges. The 2006 FEIS was completed in November, 2006 and the ROD was issued in October, 2007.

Copies of this document are available at the above locations for a cost of $22.50 ($2.25 for a CD), which does not exceed the cost of reproduction or distribution. The document is also available on the internet at the following address:
http://www.wsdot.wa.gov/projects/sr167/puyallupriverbridge/

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PROJECT TITLE: **SR 167 – PUYALLUP TO SR 509**

Project Location: **This portion of the project will replace the existing northbound State Route (SR) 167 Puyallup River Bridge. This phase would be constructed within Pierce County, Washington in the City of Puyallup.**

Project Description: **The Washington State Department of Transportation (WSDOT) is planning the completion of the SR 167 freeway between SR 161 (Meridian Street North) in north Puyallup and the SR 509 freeway in the City of Tacoma, otherwise known as the SR 167, Puyallup to SR 509 project or the 167 Extension project. The 167 Extension project includes an interchange between SR 167 and SR 161, just north of the Puyallup River. The *preferred alternative* entailed removing the Meridian Street Bridge and constructing a new five-lane northbound bridge in its place. The Tier II Final Environmental Impact Statement (EIS) for the SR 167, Puyallup to SR 509 project was completed in November, 2006 and the Record Of Decision (ROD) was issued in October, 2007. WSDOT received funding for engineering and to purchase right of way around this time.**

The SR 167 Puyallup River Bridge Replacement project is a phase of this larger project. The scope of the bridge replacement project is to construct a new bridge that meets current design standards, preserving the structural and functional integrity of the roadway and that is compatible with the ultimate crossing design of the SR 167 Puyallup to SR 509 project. The current northbound Meridian Street Bridge was constructed in 1925 and has reached the end of its life span. This phase will remove this existing historic steel truss bridge and modify the deck of the existing southbound concrete bridge to handle northbound traffic. A new concrete bridge will be built on the west side of the existing southbound bridge to handle southbound traffic. It will have a span of 560' with five piers. The existing Meridian Street Bridge will be dismantled and preserved offsite. WSDOT has negotiated with King and Pierce Counties regarding the potential for use of the Puyallup River steel truss on the Foothills Trail between Enumclaw and Buckley. If this plan is not feasible, WSDOT will advertise the historic bridge in an attempt to find an entity that is willing and capable of using or displaying the bridge, while maintaining its historic integrity.

This proposed design will serve existing traffic, and will accommodate the ultimate configuration of the proposed SR 167/SR 161 interchange and proposed five-lane northbound bridge of the 167 Extension project. When funding becomes available to complete the 167 Extension project at a later date, construction crews will be able to utilize the footprint of the Meridian Street Bridge to construct the first two lanes of the five-lane northbound bridge. The modified two-lane concrete bridge handling northbound traffic would then be demolished to make room to finish construction of the remaining three lanes of the ultimate five-lane bridge for northbound traffic. This Draft Supplemental EIS provides updates and additional analyses, and a comparison of impacts and benefits associated with a

proposed design change for the Puyallup River crossing aspect of the 167 Extension project.

Project Proponent: **Washington State Department of Transportation**
Olympic Region

SEPA

Responsible Agency: **Washington State Department of Transportation**
Responsible Official: **Megan White, Director of Environmental Services**

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Proposed Implementation Date

This phase is currently scheduled to begin Advertisement for bids in the summer of 2013. This phase will be design-build and construction will last approximately two years.

Required Permits, Approvals and Licenses

U.S. Army Corps of Engineers

- **Section 404 Permit**

Office of Archeology & Historic Preservation

- **Section 106**

Washington State Department of Ecology

- **Certification of Consistency with Coastal Zone Management**
- **Clean Water Act Section 401 Water Quality Certification**
- **NPDES Permit**

Washington State Department of Fish and Wildlife

- **Hydraulic Project Approval**

Pierce County/City of Puyallup

- **Critical Areas Ordinance**
- **Shoreline Substantial Development Permits**
- **Noise Variance**

Authors and Principal Contributors

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Project Schedule

Date of Issue of Draft Supplemental EIS **Jan. 7, 2013**
Date Comments Due **Mar. 15, 2013**
Issue Final Supplemental EIS following comment period.

Agency Action and Projected Date for Action

Record of Decision **following issue of Final Supplemental EIS**

Additional Documentation

The Draft Supplemental EIS contains a Summary that will be available on the project website (http://www.wsdot.wa.gov/projects/sr167/puyallupriverbridge/). The complete Draft Supplemental EIS and support materials, including all Discipline Reports will also be available for review at:
6639 Capitol Blvd, Suite 302, Tumwater, WA 98501
360-570-6701, Fax# 360-570-6697. Please call for an appointment.
Copies of the Draft Supplemental EIS and related technical studies can be obtained from:

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Cost

The cost of the Draft Supplemental EIS is $35.00 ($2.25 for a CD), which does not exceed the cost of reproduction.

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Americans with Disabilities Act (ADA) Information

If you would like copies of this document in an alternative format – large print, Braille, cassette tape, or on computer disk, please call (360) 705-7097. Persons who are deaf or hard of hearing, please call the Washington State Telecommunications Relay Service, or Tele-Braille at 7-1-1, Voice 1-800-833-6384, and ask to be connected to (360) 705-7097.

Title VI

WSDOT ensures full compliance with Title VI of the Civil Rights Act of 1964 by prohibiting discrimination against any person on the basis of race, color, national origin or sex in the provision of benefits and services resulting from its federally assisted programs and activities. For questions regarding WSDOT's Title VI Program, you may contact the Department's Title VI Coordinator at (360) 705-7098.

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Exhibits

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Abbreviations and Acronyms

ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
AHS	Archaeological and Historical Services
APE	Area of Potential Effects
BA	Biological Assessment
BMP	Best Management Practice
BO	Biological Opinion
CAA	Clean Air Act (Federal), 42 USC Section 7901
CAC	Citizens' Advisory Committee
CAVFS	Compost Amended Vegetated Filter Strip
COE	United States Army Corp of Engineers
CWA	Clean Water Act, 33 USC Section 1251
DAHP	Department of Archaeology and Historic Preservation
DEIS	Draft Environmental Impact Statement
DSEIS	Draft Supplemental SEIS
DPS	Distinct Population Segment (USFWS)
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit (NOAA-Fisheries)
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FONSI	Finding of No-Significant Impact - (NEPA)
HAER	Historic American Engineering Record
HPA	Hydraulics Project Approval
LTAA	Likely to Adversely Affect (ESA)
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act of 1969
NMFS	National Marine Fisheries Service (AKA: NOAA Fisheries)
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OHWM	Ordinary High Water Mark or line
PSRC	Puget Sound Regional Council
ROD	Record of Decision (NEPA)
RRP	Riparian Restoration Proposal
RPZ	Runway Protection Zone
SEIS	Supplemental Environmental Impact Statement
SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SPL	Sound Pressure Level
SPCC	Spill Prevention, Control, and Countermeasures
SR	State Route
TESC	Temporary erosion and sedimentation control
THPO	Tribal Historic Preservation Officer
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WSDOE	Washington State Department of Ecology
WSDOT	Washington State Department of Transportation

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Executive Summary

Introduction

The State Route (SR) 167, Puyallup River Bridge (167/20E) replacement, which is a small component of the larger SR 167, Puyallup to SR 509 Project, has recently been funded. The legislature has mandated the design build process for delivery of this phase. The SR 167 Puyallup River Bridge is also called the Meridian Street Bridge. This Draft Supplemental Environmental Impact Statement (EIS) has been prepared for this work because this bridge has become eligible for listing in the National Register of Historic Places (NRHP). At the time the original EIS was completed, the Meridian Street Bridge was not NRHP eligible.

The Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) proposed the SR 167, Puyallup to SR 509 Project. The SR 167, Puyallup to SR 509 Project is located in Pierce County, Washington, within the Cities of Fife, Puyallup, Edgewood, Milton and Tacoma. The Final EIS for this project was completed in November 2006 (2006 Final EIS) and Record of Decision (ROD) issued in October 2007. There was no construction funding available to construct the project at that time. WSDOT received funding for engineering and to purchase right of way through June 30, 2011. WSDOT has acquired 103 properties that comprise 70% of the corridor right of way, and received additional funds in 2012 to continue with acquisition.

What is the purpose of the SR 167, Puyallup River Bridge Replacement project and why is it needed?

The SR 167, Puyallup River Bridge Replacement project is an integral part of the larger SR 167, Puyallup to SR 509 project. The funding of this bridge replacement project has been expedited because severe corrosion of the steel members and delamination of the concrete floor beams and piers were noted during routine inspection. Due to the magnitude of deterioration of the structure, WSDOT implemented a load restriction requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. The project will also help to reduce maintenance costs due to deterioration of the structure. The original purpose and need of the SR 167, Puyallup to SR 509 project is to improve regional mobility on the transportation system to serve multimodal local and port freight movement and passenger movement between the Puyallup termini of SR 167, SR 410, and SR 512 and the Interstate 5 (I-5) corridor and to the Port of Tacoma.

Who is directing the project?

FHWA and WSDOT are co-lead agencies. They guide the environmental review oversight and roadway design guidance.

Will there be any change in design for the bridge from the 2006 Final EIS?

The change will be that a new two-lane bridge will be constructed to the west of the existing concrete bridge, instead of at the current location of the steel truss bridge. The existing two-lane concrete bridge will be retrofitted to handle northbound traffic and the new bridge will handle southbound traffic. By changing the position of the new bridge, the current design will have significant environmental and cost benefits which are as follows:

- Elimination of the need for a detour structure east of the historic steel bridge, since the new two lane bridge could be built *off line*.
- Elimination of any impacts to the roads accessing the business northeast of the bridge.
- Reduced permanent impacts to right of way by constructing a retaining wall to preserve the parking lot southwest of the bridge.
- Project duration will be reduced, minimizing impacts to traffic and the environment.

- Reduces the risk of future design and/or constructability issues by building a new two-lane southbound bridge as opposed to building two lanes of a future five-lane northbound bridge.

Once funding is available to complete the SR 167, Puyallup to SR 509 project, the two-lane northbound bridge will be removed to make way for the ultimate configuration of a five-lane northbound bridge that was detailed in the 2006 Final EIS.

When would the project be constructed?

The SR 167, Puyallup River Bridge Replacement project is currently scheduled to be advertised for bids in the summer of 2013. This project will use a design-build contract and construction will last approximately two years.

What are the environmental consequences of the project?

The analyses presented in this Draft Supplemental Environmental Impact Statement cover the environmental issues and effects that are different from the 2006 Final EIS. The Meridian Street Bridge design changes affect archaeological and historic resources, fish and water resources. There will be no additional effects to other resources with this phase as compared to the 2006 Final EIS.

The changes in effects are as follows:

Fish – Two federally protected fish species, and their critical habitat, were described in the 2006 Final EIS because they could potentially occur in the project area: Puget Sound Chinook, and bull trout. Since that time, two additional fish species present in this area were listed as threatened or endangered under the Endangered Species Act (ESA): Puget Sound steelhead, and southern distinct population segment of Pacific Eulachon. Eulachon is likely to be present in the project area. The proposed project may affect Steelhead and is *likely to adversely affect* individual juveniles and adults. An update to the ESA Section 7 Biological Assessment will be done and concurrence from the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) will be obtained. Proposed design changes will not change the determination of *adverse affect* on Essential Fish Habitat.

Water Resources – The water resources impacts are consistent with the impacts which were discussed in the 2006 Final EIS. The placement of the bridge on the west side of the existing bridges will eliminate the need for a detour structure east of the historic steel bridge, which will reduce the impact due to in-water work. Replacement of the steel bridge will require in-water work and one pier will be located in the Puyallup River. Construction work below the ordinary high water mark is expected to include work in the water due to placement of temporary piles, permanent piers, bridge installation and placement of quarry spalls. This will be done under the requirements of the Hydraulic Project Approval permit as issued by the Washington Department of Fish and Wildlife (WDFW) and the Section 404 permit issued by the U.S. Army Corps of Engineers.

Archaeological and Historical Resources – The area of potential effects to archaeological and historic resources has been changed from the 2006 Final EIS, to include all additional areas of disturbance associated with the proposed new bridge design. This includes potential indirect visual or audible effects. The SR 167 Puyallup River steel truss (Meridian Street) bridge is now eligible for listing in the NRHP. Both the 2006 Final EIS design and the proposed design require removal of this bridge, which is now an adverse effect under Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act of 1966. WSDOT and FHWA will continue Section 106 consultation and seek ways to mitigate adverse effects to the Meridian Street Bridge. The impacts will be mitigated as agreed upon with state and federal resource agencies. The details on the bridge and proposed mitigation can be found in Chapter 5 and in Appendix A.

Section 4(f) Resources – The historic bridge is a Section 4(f) resource as well as a historic resource. The draft addendum to Section 4(f) evaluation was prepared, has been updated and is being circulated for comment. This report is available as an appendix. **(Appendix B)**

What mitigation is proposed for this project?

In addition to mitigation measures discussed in the 2006 Final EIS, the SR 167, Puyallup River Bridge Replacement project will include mitigation for the removal of the historic bridge. A Memorandum of Agreement (MOA) is being developed and mitigation measures for the adverse effect on the Meridian Street Bridge will be stipulated. The stipulations are anticipated to include:

- WSDOT will arrange to dismantle, store and maintain the NRHP-eligible steel truss structure to preserve it for an alternate use as agreed to in the MOA.
- The documentation of the Meridian Street Bridge will be completed in accordance with the Historic American Engineering Record standards.
- WSDOT is negotiating with King and Pierce Counties regarding the potential for use of the Puyallup River steel truss bridge on the Foothills Trail between Enumclaw and Buckley across the White River.
- In the event it is not economically feasible to reuse the steel truss bridge for the Foothills Trail, WSDOT is prepared to store the bridge and advertise its availability for preservation at an alternate site. The advertisement of the availability of the bridge would occur as soon as it became apparent that the current plan was not feasible. The steel truss would remain in-place until the end of the current project in late 2015, being advertised the entire duration. If no alternative interested parties are identified during that time, WSDOT would remove the steel truss from its current location and store it until 2019 at which time funding for further storage and maintenance of the bridge would be evaluated**.**

Did the public have input on this project?

Extensive consultation with the public and interest groups was conducted during the EIS process. The information is available in Chapter 1 of the SR 167, Puyallup to SR 509 2006 Final EIS. WSDOT created a webpage for the SR 167, Puyallup River Bridge Replacement project in November 2011 that provided information about the project and contact information for the design office. The project webpage is updated every month to highlight progress on the project.
(http://www.wsdot.wa.gov/projects/sr167/puyallupriverbridge/)

Because of its historic significance, WSDOT and FHWA have pursued ways to preserve the Meridian Street Bridge even though it will need to be removed from its present location. An MOA is being developed in consultation with tribes, local and state agencies and other interested parties to stipulate the measures that will be taken to achieve this proposed preservation. WSDOT and FHWA will continue consultation with interested parties in order to seek ways to minimize, or mitigate adverse effects to the Meridian Street Bridge that would result from the Puyallup River Bridge Replacement project.

WSDOT will provide this Draft Supplemental EIS to the public and agencies for their comments. The Draft Supplemental EIS will be available in Pierce County offices and libraries for review by the public and all interested parties. WSDOT will continue to meet with any interested parties to resolve any environmental issues that may occur during project design and construction.

Have the tribes and other agencies been involved in this project?

WSDOT staff will coordinate directly with agencies that are responsible for issuing environmental permits for the SR 167, Puyallup River Bridge project. These agencies include the U.S. Army Corps of Engineers,

NMFS, USFWS, the Washington State Department of Ecology, WDFW, Pierce County and the City of Puyallup.

Consultation with the Puyallup Tribe was conducted through the 2006 Final EIS process. At that time, a Section 106 MOA was developed in consultation with the Puyallup Tribe and other consulting parties.

Four tribes, (Muckleshoot, Puyallup, Squaxin Island and Yakama Nation) whose area of interest includes the project area, were informed in January 2012 about this phase and were given an opportunity to comment on the area of potential effects. No comments have been received to date.

An updated cultural resources survey report was completed for the project on August 2, 2012 and has been sent to all the tribes of interest and to the Department of Archaeology and Historic Preservation for comments. The Section 106 MOA will be updated as a mitigation measure for the adverse effect on the Puyallup River Steel Bridge and WSDOT will obtain tribal input. Currently, the updated MOA is expected to be signed by February 2013.

During construction, WSDOT will make contact with both the Pierce County Sheriff and the Washington State Patrol, and other local emergency services, and do everything possible for smooth running of traffic.

WSDOT will continue to meet with regulatory agencies and tribes to resolve any environmental issues that may occur during project design and construction.

Issues to be resolved.

WSDOT will work with King and Pierce Counties to seek funding and grant opportunities to reuse and preserve the historic steel truss bridge. The success of this effort will determine if there is sufficient funding to close the gap between constructing a new pedestrian bridge and reusing the steel truss for a pedestrian crossing over the White River as a part of the Foothills Trail connecting Pierce and King Counties.

How can you get involved?

You are invited to participate in this project by reviewing this Draft Supplemental EIS and providing comments on the information. The input you provide will be given careful consideration by the lead agencies.

Comments are to be sent to:
Brenden Clarke, Project Engineer
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Olympia, WA 98504-7440
Phone: 360-570-2606
Email: clarkeb@wsdot.wa.gov

Chapter 1 - Introduction

The Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) have proposed the State Route (SR) 167, Puyallup to SR 509 Extension project. The SR 167, Puyallup to SR 509 Extension project (hereafter referred to as the *167 Extension project*) is located in Pierce County, Washington, within the Cities of Fife, Puyallup, Edgewood, Milton and Tacoma. The environmental analysis for this project was completed in two tiers (stages). The Tier I Environmental Impact Statement (EIS) analyzed the location and environmental aspects of different corridor options and selected the environmentally preferred corridor. The Tier II EIS selected the preferred alignment within the corridor and the interchange configuration. The 167 Extension project includes an interchange between SR 167 and SR 161, just north of the Puyallup River, which necessitates the reconstruction of the Puyallup River Bridges, 167/20E and 167/20W. Since Bridge 167/20E, also known as the Meridian Street Bridge, has been recently determined to be eligible for the National Register of Historic Places (NRHP), the 167 Extension project would have an additional impact to archaeological and historic resources. Therefore the EIS for the 167 Extension project must be supplemented with this information. This Draft Supplemental EIS provides updates and additional analyses, and a comparison of impacts and benefits associated with a proposed design change for the Puyallup River crossing aspect of the 167 Extension project.

1.1 What is the Reason for the SR 167 Extension Project?

The 167 Extension project will complete the SR 167 freeway by building four miles of new six-lane freeway from its current terminus in Puyallup at SR 161, through the Puyallup River valley, connecting to Interstate 5 (I-5) near the 70th Avenue undercrossing, and another two miles of four-lane divided freeway from I-5 west to connect to SR 509 near the Port of Tacoma. (**Exhibit 1: SR 167 Extension Project Alignment**) The 167 Extension project will include one direct highway connection, four interchanges, two weigh stations, two park and ride lots, and the reconstruction of the Puyallup River Bridges. The project will also include an innovative stormwater management approach, known as the Riparian Restoration Proposal (RRP), which reduces potential flooding while improving local stream conditions. In addition to important traffic benefits such as increased mobility, improved safety, and accessibility; the SR 167 Extension project will include measures to avoid or minimize impacts, enhance wetlands, connect wildlife habitats, abate traffic noise, and other efforts to protect the environment.

1.1.1 Purpose and Need

The purpose and need for the 167 Extension project is not changed with this Draft Supplemental EIS. The purpose and need of the 167 Extension project is to improve regional mobility to serve multimodal local and port freight movement and passenger movement between (1) the Puyallup termini of SR 167, SR 410, and SR 512 and (2) the I-5 corridor, the new SR 509 freeway, and the Port of Tacoma. The existing non-freeway segment of SR 167 has high levels of congestion at surface street intersections and includes many connecting driveways. Trucks transporting freight from the Port of Tacoma and the Puyallup industrial area add to the congestion. These conditions contribute to relatively high accident rates, and increased air pollution from the stop-and-go traffic conditions. In 1999, the Port of Tacoma projected that truck traffic would double to 600,000 trucks annually by the year 2014. Traffic modeling in 2008 and intersection counts in 2011 were analyzed to update traffic forecasts for this Draft Supplemental EIS also indicate problems will continue to worsen out to the year 2035. (**See Appendix A**)

The project is intended to reduce congestion and improve safety on the arterials and intersections in the study area, provide improved system continuity between the SR 167 corridor and I-5, and maintain or improve air quality within the corridor to ensure compliance with the current State Implementation Plan and all requirements of the Clean Air Act. Benefits of the proposed project include:

- Reduces congestion
- Improves safety for traffic, pedestrians, and bicyclists
- Improves regional mobility of the transportation system

- Serves multi-modal freight and passenger movement
- Improves continuity between SR 167 and I-5
- Reduces flooded area along local creeks
- Maintains or improves air quality in the corridor
- Improves fish habitat in nearby streams

The Tier II Final Environmental Impact Statement (FEIS) for the 167 Extension project was issued in November 2006, (hereafter referred to as the 2006 FEIS) and FHWA issued the Record of Decision (ROD) in October 2007. While there was not sufficient funding available to construct the project at that time, WSDOT received funding for preliminary engineering and purchase of right of way. Since then, WSDOT has acquired 103 properties, which comprise 70% of the corridor right of way. WSDOT received additional funding to continue with right of way acquisition and preliminary engineering as part of the 2012 legislative supplemental budget. Construction, however, remains unfunded.

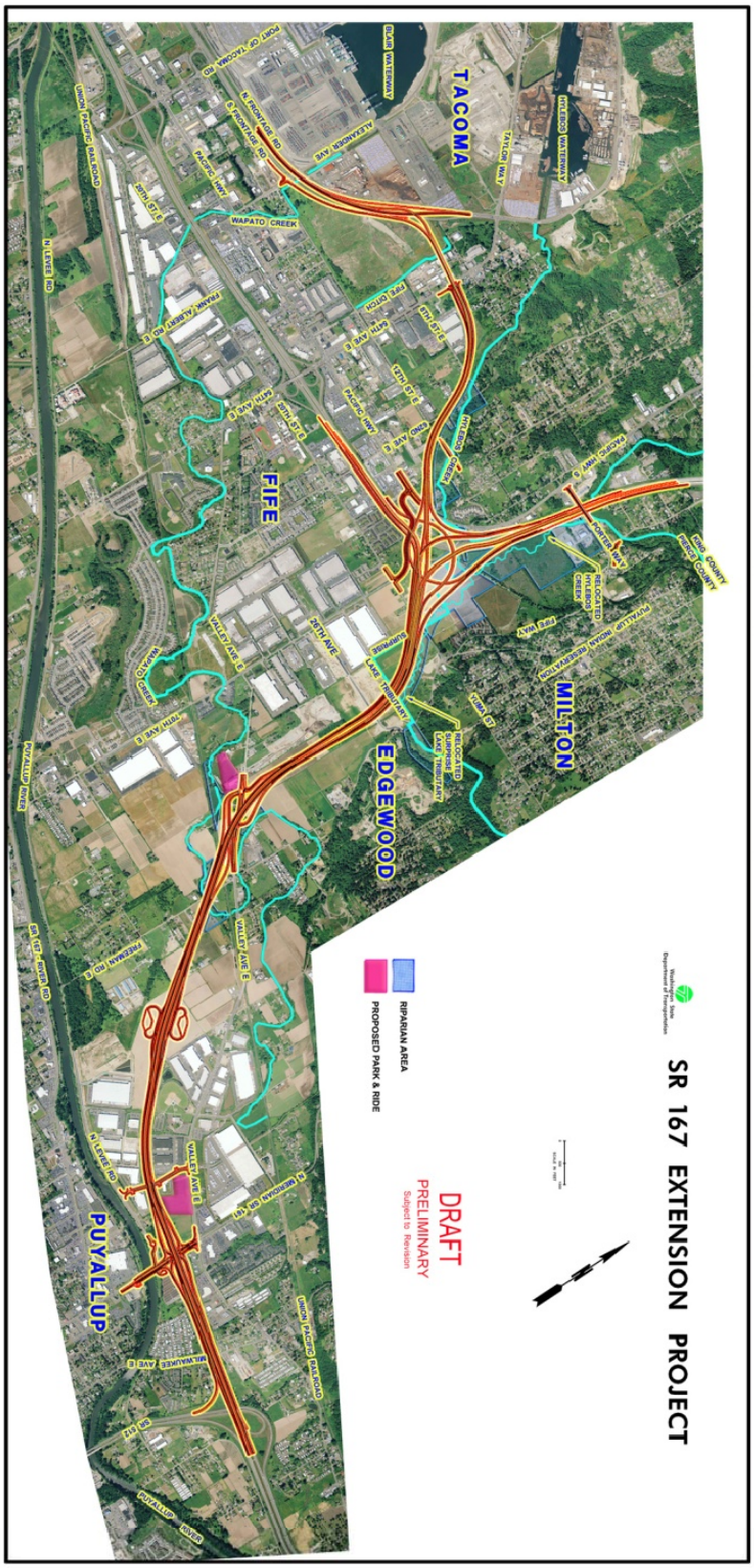

Exhibit 1: SR 167 Extension Project Alignment

1.2 Why is a Draft Supplemental EIS needed?

The SR 167 Puyallup River Bridge Replacement project, which is a small phase of the 167 Extension project, has recently been funded. The Meridian Street Bridge is prioritized on the WSDOT Preservation Program list for Bridge Replacement during the 2013-2015 biennium, when the Legislature made the bridge a priority by funding the project for the 2011-2013 biennium. The legislature has mandated the design-build process for delivery of this phase, hereafter referred to as the Puyallup River Bridge Replacement project (PRBR). To prepare this phase for design-build, WSDOT reviewed the design and environmental documentation, and noted the conditions that have changed since the 2006 FEIS was completed. During recent inspections, the Meridian Street Bridge was determined to be eligible for listing on the National Register of Historic Places. While it had been determined not to be eligible in 2006, the bridge is now eligible for the NRHP. The replacement of this bridge will be an *adverse effect* on a historic resource, which must now be added to the list of effects. The 2006 FEIS for the 167 Extension project must be supplemented with this information. Also, the design for the Puyallup River crossing as part of the 167 Extension project has been modified in response to this finding, and all environmental aspects of the changed design need to be evaluated. The design changes are detailed in Chapter 2, *Puyallup River Crossing Design Changes*.

1.3 What is included in this document?

This document and the attached discipline reports supplements the 2006 FEIS by describing the impacts expected from revised design of the Puyallup River crossing portion of the Extension project. Each category of potential environmental impact presented in the 2006 FEIS was reviewed to determine the potential for impacts and benefits that would be different from those reported in the FEIS. This Draft Supplemental EIS presents only the information and analyses that were determined to be pertinent to the differences associated with the proposed Puyallup River crossing design changes:

- Archaeological and historic resources
- Threatened and endangered species
- Water resources
- Traffic

This document also describes the current proposed construction project, the Puyallup River Bridge Replacement project, which would construct a portion of the ultimate river crossing design. This phase would construct a new bridge for southbound lanes, and temporarily move the northbound lanes to bridge 167/20W. It would then remove the Meridian Street Bridge. The deteriorating condition of the Meridian Street Bridge has made this construction project critical.

1.4 What is not included in this document?

The following categories of potential environmental impacts are not discussed further in this document, since they are either not present in the Puyallup River crossing study area, or there are the same effects with the design revision presented in the 2006 FEIS.

The minor revision in alignment of the bridge replacement and traffic pattern for the Puyallup River crossing does not warrant an update to the analyses for the following:

- Air Quality
- Noise
- Energy
- Hazardous Materials
- Visual Quality
- Public Services and Utilities

- Land Use
- Wetlands
- Farmland
- Displacement
- Pedestrian and Bikes

Environmental Justice:

The 2006 FEIS discussed environmental justice issues in Chapter 3 (3.11.3). Based on the analyses performed, the project was not expected to disproportionately impact minority and/or low-income populations within the project area, and project impacts were not considered to be high and adverse after proposed mitigation measures were implemented. The proposed design revisions for the Puyallup River crossing will not change the overall SR 167 Puyallup to SR 509 Extension project impacts on minority populations or low-income populations.

1.5 Who will lead the project?

FHWA is the lead federal agency for the project, providing guidance and oversight to WSDOT. WSDOT is the lead for the supplementary environmental analysis phase.

1.6 How is the public involved?

The public was involved in the SR 167, Puyallup to SR 509 Extension project in the Tier I EIS and the Tier II EIS processes through public meetings, newsletters, e-mail notifications, project websites and open houses. The Citizen's Advisory Committee was formed to assist in recognizing local issues and concerns. The project team frequently made presentations to Chambers of Commerce, business associations and civic organizations. The 2006 FEIS summarizes the public involvement in the Tier I and Tier II processes.

The public will now be invited to participate in the SR 167, Puyallup River Bridge Replacement project by reviewing the Draft Supplemental EIS and providing comments. The input from the public will be carefully considered in agency decision making.

Current and future public involvement opportunities include:

- Project Web site: http://www.wsdot.wa.gov/Projects/SR167/PuyallupRiverBridge
- E-mails and telephone
- Project meetings with individuals and groups
- Project meetings with agencies and Tribes
- Comments on the Draft Supplemental EIS during the comment period

1.7 What is the expected schedule and cost for the proposed construction project?

The preliminary engineering for the PRBR project is scheduled to be complete by the summer of 2013. The next phase of the project will be environmental documentation and permits that will be finished by the fall of 2013. The bridge design will begin in the late summer of 2013 and be complete by the summer of 2014. Construction will begin in the summer of 2014 and be complete by the fall of 2015. The PRBR project is currently funded and will cost approximately $30 million for design, environmental analyses and mitigation, right of way, and construction.

1.8 What permits or approvals are needed before beginning construction?

Federal Agencies

- National Marine Fisheries Service (NMFS) & U.S. Fish & Wildlife Service (USFWS) - Endangered Species Act consultation
- U.S. Army Corps of Engineers (COE) - Nationwide Permit

State Agencies

- WA Department of Archaeological & Historical Preservation (DAHP) - Section 106 Concurrence
- WA Dept of Ecology (WSDOE) - Section 401 Water Quality Certification, Section 402 National Pollutant Discharge Elimination System (NPDES) Permit, & Coastal Zone Management Certification
- WA Dept of Fish & Wildlife (WDFW) - Hydraulic Project Approval

Local Agencies

- Pierce County - Critical Area Ordinance Review, Flood Plain Development Permit & Shoreline Substantial Development Permit

1.9 What information is provided in the remainder of this document?

- Chapter 2 – Puyallup River Crossing Design Changes: *Details the design changes proposed for the Puyallup River crossing.*
- Chapter 3 – Affected Environment, Impacts and Mitigation: *Details the potential benefits, environmental impacts, and mitigation associated with the proposed Puyallup River crossing design, that are different from the previous design.*
- Chapter 4 – Public Agency and Tribal Coordination: *Details past consultations with regulatory agencies and interested parties through the 2006 Final EIS, and continuing consultations for this Supplemental EIS.*
- Chapter 5 – Section 4(f) Evaluation: *Details the Section 4(f) Evaluation of the Meridian Street Bridge.*

Appendices:

A. Discipline Reports and List of Preparers
B. Addendum to Section 4(f) Evaluation
C. Biological Assessment
D. Bridge Preliminary Plans
E. Commitment List
F. Circulation List

Chapter 2 –Puyallup River Crossing Design Changes

This chapter describes the previously proposed Puyallup River crossing portion of the 167 Extension project, the reasons for changing the design and the proposed new design.

2.1 What is the existing SR 167 Puyallup River crossing?

The existing SR 167 crossing of the Puyallup River is located at mile post 6.40, just outside the City of Puyallup. **(Exhibit 2 & Appendix C – Vicinity Map)** There are two southbound lanes on a concrete bridge constructed in 1970 (WSDOT Bridge number 167/20W), and two northbound lanes on a steel truss bridge, built in 1925 (WSDOT Bridge number 167/20E), known as the Meridian Street Bridge. **(Exhibit 3 – Aerial View of Existing SR 167 Puyallup River Bridges)** The Meridian Street Bridge is 371 feet long, with traveled lane widths of 21 feet from curb-to-curb, and has a 5-foot wide wooden sidewalk structure attached along the east side.

Exhibit 2 – SR 167 Historic Bridge

2.2 What design for the Puyallup River crossing was identified in the 2006 FEIS?

The preferred alternative for the SR 167 Puyallup River crossing as presented in the 2006 FEIS entailed removing the Meridian Street Bridge and constructing a new five-lane northbound bridge in its place. At the time, there was only a preliminary design for the new structure. The configuration of five-northbound lanes was determined necessary to safely allow traffic to weave into the correct lane as it approaches the proposed SR 167/SR 161 interchange. The proposal also included a small taper widening, and seismic retrofit on the

existing southbound 1970 bridge. The construction strategy would require the use of a detour structure on the east side of the Meridian Street Bridge. Traffic would be shifted off of the Meridian Street Bridge onto the temporary structure, and the Meridian Street Bridge would be removed. Then the new five-lane northbound bridge would be constructed, and the temporary structure would be removed. The final stages would be the seismic retrofit of the 1970 bridge, and the taper widening on its north end to match into the proposed SR 161/167 Interchange.

This design was supported by two key decisions. The first was that the 1970 bridge could be seismically retrofitted economically. The second was that the access from Levee Road to northbound SR 167 would be terminated in a cul-de-sac, and a new connection road would be built between Levee Road and Valley Avenue to provide access to the business to the northwest of the bridge. In addition, during a review of historic-era properties for the 2006 FEIS, the Meridian Street Bridge was not eligible for the NRHP.

Exhibit 3 – Aerial View of Existing SR 167 Puyallup River Bridges

2.3 What caused the Puyallup River crossing design to be reconsidered?

The current condition of the Meridian Street Bridge has made replacement of the bridge a priority. During a routine maintenance inspection of the Meridian Street Bridge in January of 2011, extensive floor beam deterioration was detected. Based on this condition, the structure is now rated *structurally deficient*. It was necessary for WSDOT to implement a load restriction on the bridge, requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. The steel members are exhibiting severe corrosion and the concrete deck and piers are delaminating. **(Exhibits 4 and 5: Examples of deterioration on Meridian Street Bridge)** In addition, the lane and shoulder widths do not meet current standards. With the high volume of truck traffic, this results in frequent damage to the structure.

Exhibit 4 – Example of concrete spalling on Meridian Street Bridge (Note exposed rebar)

Spalling (definition) – To chip or crumble.

Exhibit 5 – Example of rusted beams on Meridian Street Bridge

Exhibit 5 shows severe pack rust between a girder and bottom flange. This example is typical for the bridge, with some areas of pack rust up to 1-1/2" thick.

The following factors led the design team to revise the Puyallup River crossing as part of the 167 Extension project, and develop a construction strategy for the replacement of the Meridian Street Bridge, or the Puyallup River Bridge Replacement project (PRBR):

Funding
Replacement of the Meridian Street Bridge was made a priority due to its deteriorated condition, and funding was approved for the 2011-2013 biennium. The PRBR project funding is limited to providing a two-lane structure built to current design standards. Therefore, the Puyallup River crossing design needed to allow for the interim PRBR construction project to function as part of the future 167 Extension project. The limited funding also required the design team to come up with a revised delivery strategy that would reduce the cost and duration of the interim construction project.

Historic Meridian Street Bridge
Recent inspection of the Meridian Street Bridge found advanced deterioration which made replacing it a high priority. It also led to the reassessment of the bridge's historic value, and it was ultimately determined to be eligible for listing on the NRHP. This meant that removing the bridge would be an adverse effect to a historic resource. Under Section 106 of the National Historic Preservation Act, and Section 4(f) of the Department of Transportation Act of 1966, such an affect must be avoided, minimized, or mitigated. This changed condition required the design team to examine alternatives to the Puyallup River crossing design in the 2006 FEIS, which had identified the need for demolition of the Meridian Street Bridge.

Seismic Standards
Since the 2006 FEIS was completed, seismic standards for highway bridges have been revised. When evaluated in light of these changes, it was determined that seismic retrofit of the 1970 bridge would be economically unfeasible. This change required an ultimate Puyallup River crossing configuration that allowed for construction of a new southbound bridge.

2.4 What other factors were considered in developing a new design?

Any revised bridge replacement design needed to connect to the proposed design for the remainder of the 167 Extension project, and accommodate the projected traffic. While two lanes are sufficient for current and future traffic volumes southbound, the northbound bridge will need an additional three lanes to provide necessary traffic capacity, and to safely connect to the proposed SR 167/SR 161 interchange that will be located just north of the bridge. The five northbound lanes will include two left-turn, one through, and two right-turn lanes. In order to allow traffic to weave/merge into the appropriate lanes in advance of the interchange, the new five-lane northbound bridge must be constructed over the footprint now occupied by the historic Meridian Street Bridge. In addition to the issues in Section 2.3, concerns regarding temporary and permanent impacts to the river, to private property and business operations, and to traffic operations, guided the development of a new design. The temporary detour structure which was necessary for the original bridge replacement design in the 2006 FEIS, would result in temporary right of way impacts, and would permanently impact access to the business located immediately northeast of the bridge. The Meridian Street Bridge could not be used for staging materials and equipment during construction because of the limited load capacity and limited clearance. Therefore, in the 2006 FEIS design, a substantial temporary work platform would have been constructed across the river. Those temporary structures would have resulted in temporary impacts to the river, with the installation and removal of pilings and approaches on the shoreline.

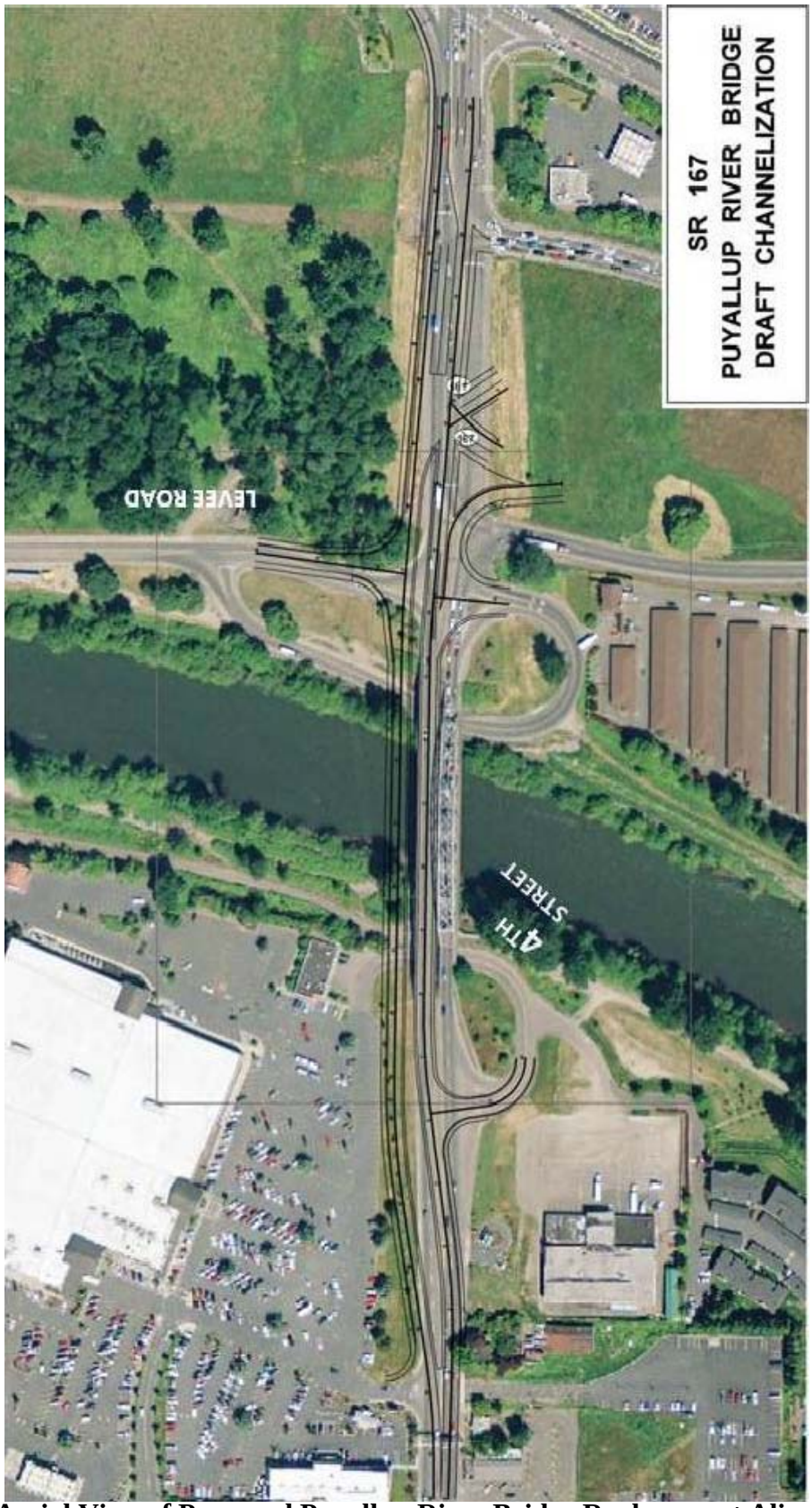

Exhibit 6: Aerial View of Proposed Puyallup River Bridge Replacement Alignment

2.5 What is the proposed revised design and delivery plan for the Puyallup River crossing?

Elements of the proposed revised design for the Puyallup River crossing as part of the 167 Extension project include:

- Reduce southbound traffic to one lane on the existing 1970 bridge.
- The 1970 bridge would then be used to stage materials and equipment for the construction of a new bridge to the west of the 1970 bridge for the southbound lanes. **(See Exhibit 6)**
- A temporary in water work trestle, approximately 30' x 100', would be constructed to build one in water pier for the new bridge.
- The new southbound bridge would have two 12-foot wide lanes, a 2-foot wide shoulder and an 8-foot wide sidewalk next to the outside lane, and a 4-foot wide shoulder next to the inside lane. **(See Exhibit 7)**
- Once the new bridge is completed, northbound traffic would shift to the 1970 bridge and southbound traffic would shift to the new bridge.
- The historic Meridian Street Bridge would then be removed along with the temporary work trestle.
- The 1970 bridge would be modified for interim use for two lanes of northbound traffic, by removing sidewalk, and removing and replacing traffic barriers, and re-striping lanes. **(See Exhibits 8 & 9)**
- The two northbound lanes are adequate until the SR 167/SR 161 Interchange is constructed as part of the larger 167 Extension project.
- Approach roads will be realigned to accommodate the new traffic pattern in this short segment.

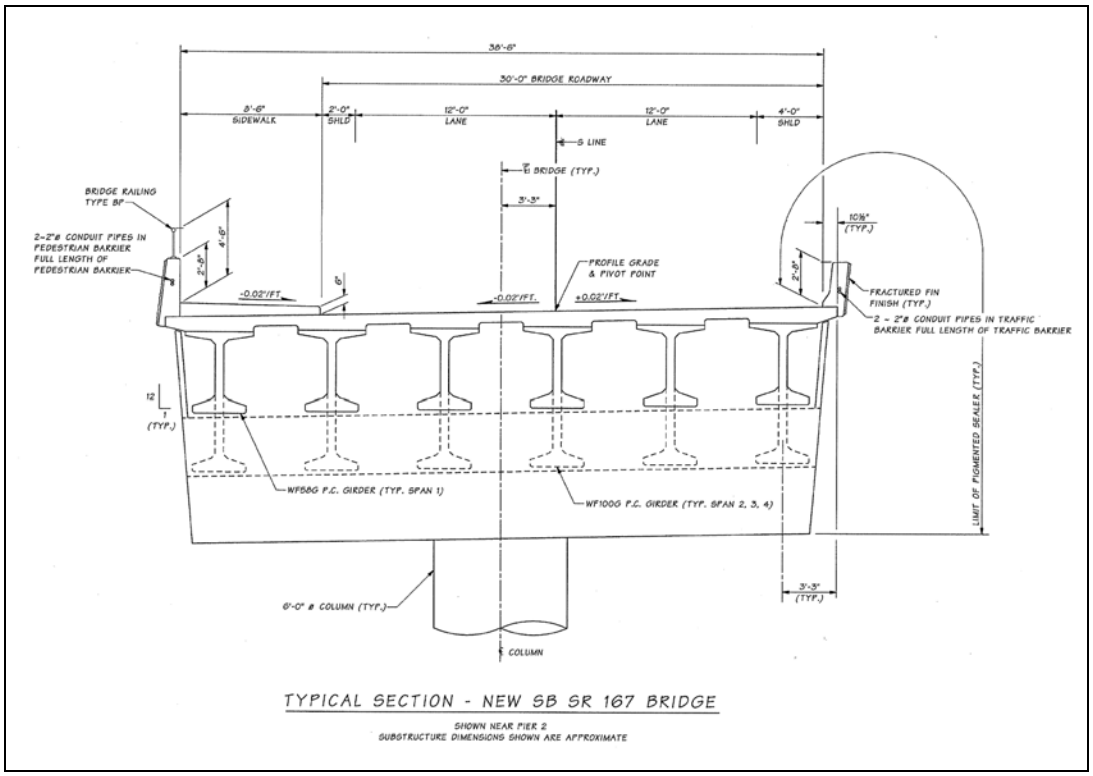

Exhibit 7 – Typical Cross Section of Proposed New SR 167 Southbound Bridge

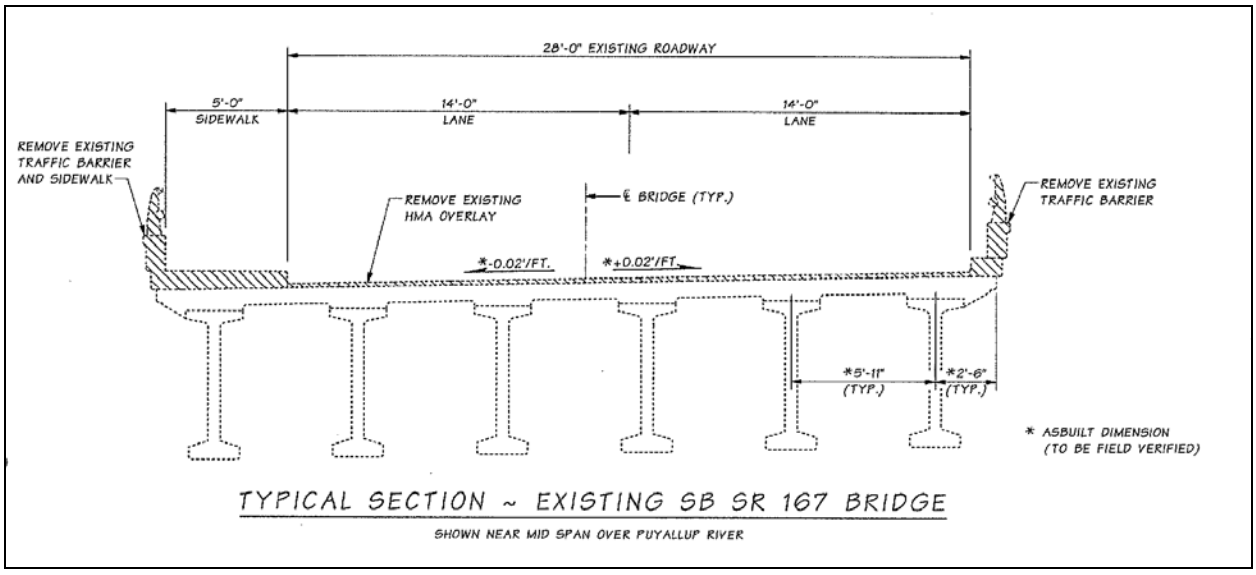

Exhibit 8 – Cross Section of Existing 1970 Bridge (currently southbound lanes)

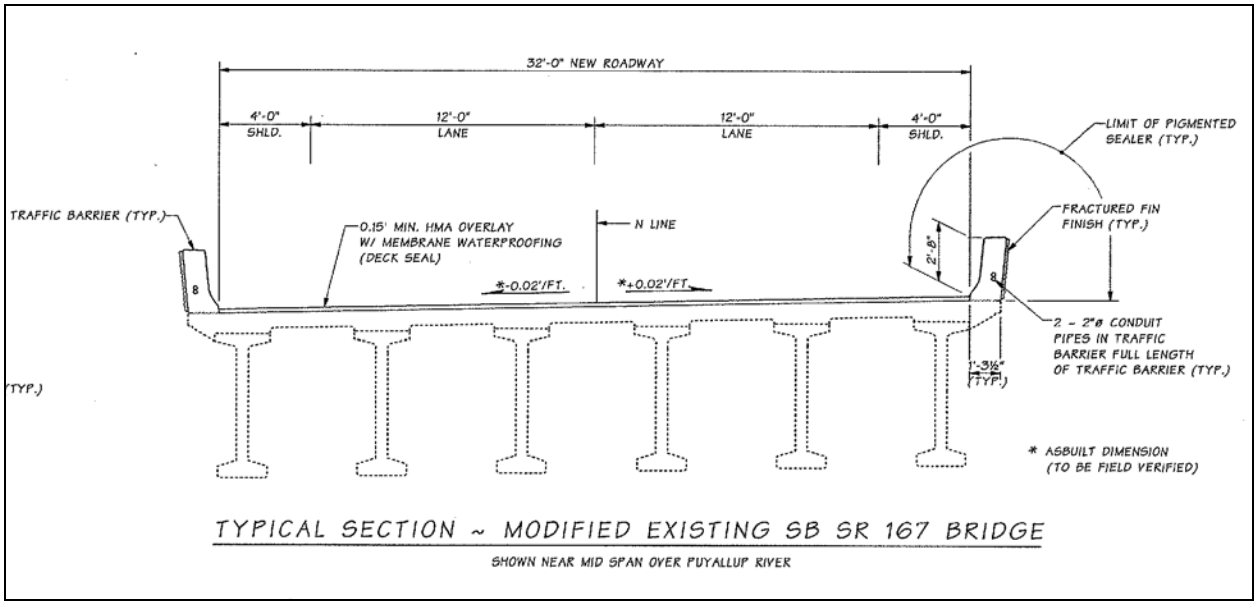

Exhibit 9 – Cross Section of Proposed 1970 Bridge (modified for northbound lanes)

This interim phase is the currently proposed Puyallup River Bridge Replacement project. **(See Exhibit 10 – Completed Proposed Puyallup River Bridge Replacement project.)**

Exhibit 10: Design Visualization of Completed Proposed Puyallup River Bridge Replacement project (PRBR)

Once funding is obtained for completion of the 167 Extension project, the Puyallup River crossing design would be finalized:

- Traffic would first be reduced to one lane in each direction and shifted onto the new bridge west of the 1970 bridge.
- The 1970 bridge would then be used to stage materials and equipment to construct the first two lanes of the proposed five-lane bridge to the east.

- Once the first two lanes of the five-lane bridge are constructed, materials and equipment would be staged there and the 1970 bridge would then be demolished to make room to finish construction of the remaining three lanes of the five-lane bridge.

Exhibit 11 below illustrates the final alignment of the Puyallup River crossing once the 167 Extension project is completed with future funding.

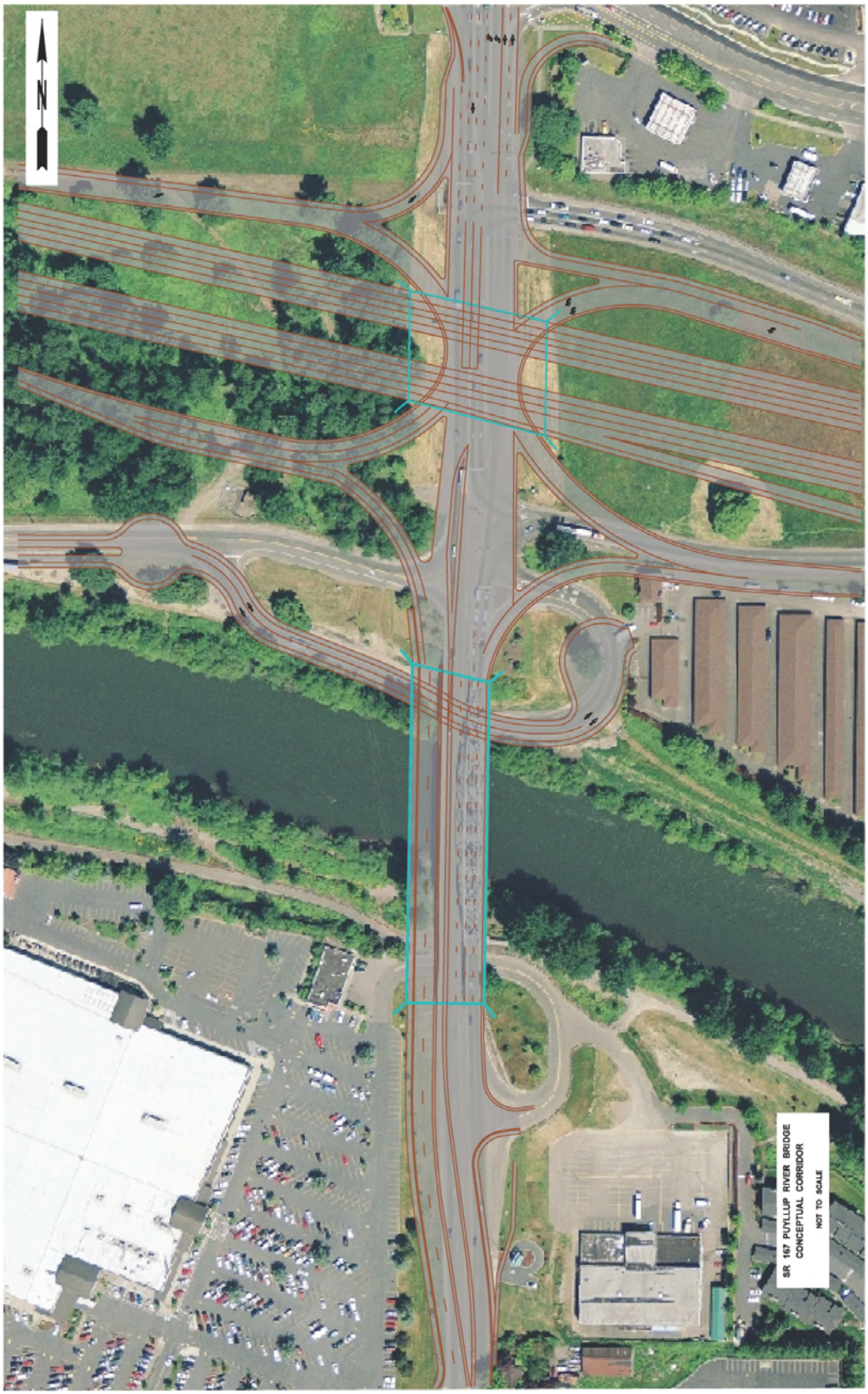

Exhibit 11 – Proposed Final SR 167 Extension Puyallup River Crossing Alignment

2.6 What are the benefits of the proposed revisions to the Puyallup River crossing design?

With the proposed changes to the design and construction plan, the Meridian Street Bridge will not need to be demolished in order to initiate construction. This will allow more time for WSDOT to finalize plans or advertise the availability of the historic steel truss structure for use off site and preserved as a part of a pedestrian and bicycle trail system.

Shifting the crossing structures to the west removes the impact to roads accessing the business northeast of the bridge, and allows for the preservation of the parking lot southwest of the bridge, with the construction of a retaining wall.

The proposed PRBR design will serve existing traffic, and will better accommodate the ultimate configuration of the proposed SR 167/SR 161 interchange and proposed five-lane northbound bridge of the 167 Extension project. When funding becomes available to complete the 167 Extension project at a later date, construction crews will be able to utilize the footprint of the Meridian Street Bridge to construct the first two lanes of the five-lane northbound bridge. By building a new two-lane southbound bridge as a part of the PRBR project as opposed to building two lanes of a future five-lane northbound bridge, the risk of future design and constructability issues are reduced. If the proposed PRBR project constructed only two lanes of a future five-lane northbound bridge, the design would have to be compatible with expansion to a future five-lane configuration. Widening a structure often presents design and constructability challenges, in addition to managing the ongoing revisions to structural design standards and changes to seismic code. The proposed PRBR design is the best solution with the current preservation funding, in terms of engineering feasibility, traffic operation, and environmental impacts.

Chapter 3 – Affected Environment, Impacts & Mitigation Measures

Roadway projects can potentially affect the natural environment (wetlands, vegetation, fish and wildlife, etc.), the built environment (residential areas, businesses and supporting infrastructure such as roads and services), and the social and economic conditions of an area. This chapter discusses those areas relevant to the Puyallup River crossing design revisions, the PRBR project, any changed conditions from the time of the 2006 FEIS, and the measures to be taken to mitigate adverse impacts.

3.1 How are environmental effects considered?

The following aspects of relevant potential environment effects are considered:

- **Direct temporary or short term** – These effects are typically related to a construction activity and go away when the construction activity stops.
- **Direct permanent or long term** – These effects are more lasting and are associated with the completed project. These effects are often called operational effects because they are associated with the opening and operation of the roadway.
- **Indirect** – Also known as secondary impacts, indirect effects are caused by the project and occur at a later time or some distance from the project.
- **Cumulative** – These are incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions.

3.2 What are mitigation measures?

Using mitigation measures is a way for a project to lessen the effects and impacts of the Proposed Action. When impacts are unavoidable, we evaluate ways to compensate for these impacts. For example, compensating for unavoidable impacts such as wetland fill impacts or stream buffer clearing often means that a project will propose to enhance, restore, or create these important features somewhere else.

3.3 What types of environmental impacts are evaluated in this Draft Supplemental EIS?

This document supplements the 2006 FEIS by evaluating the environmental impacts associated with the PRBR as part of the 167 Extension project. The following resources were determined to be relevant to the changed conditions and revised design of the bridge replacement:

- Archaeological and Historic Resources (Section 106, and Section 4(f))
- Threatened and Endangered Species
- Water Resources
- Traffic

These aspects of the project are summarized in this document, and corresponding discipline reports or other supporting documentation is attached.

3.4 Archaeological and Historic Resources

Federal regulations, particularly Section 106 of the National Historic Preservation Act of 1966 and Section 4(f) of the Department of Transportation Act of 1966, require identification and evaluation of historic properties, including archaeological sites, within the Area of Potential Effect (APE) of proposed federally aided or sponsored projects. Projects must make every effort to avoid impacts to properties or sites that are listed, or are eligible for listing, on the National Register of Historic Places. A cultural resources survey and report is performed, which seeks to identify archaeological and historic resources within the project APE,

assesses any identified cultural or historic resources, and recommends measures for avoidance, or minimization of impacts to these resources. If impacts cannot be avoided, the report recommends mitigation measures.

3.4.1 How is the Area of Potential Effects different?

The APE defined for the 167 Extension project did not encompass the entire area that will be affected by the revised river crossing design of the PRBR project. WSDOT defined the APE for the 167 Extension project to include an area of direct effects within a 200 foot offset on either side of the proposed highway centerline, as well as any additional right of way required for interchanges, stormwater facilities and mitigation sites. The vertical extent of this area of potential direct effects was considered to be three feet. The APE also included an additional 200 foot offset, extending 400 feet from either side of the centerline, to account for potential indirect visual or audible effects.

WSDOT has revised the horizontal and vertical APE, for the supplemental survey, to include the revised bridge alignment to the west of the 1970 bridge. The APE encompasses all areas where ground disturbing activities associated with the proposed new bridge would occur, four feet deep in general, extending to 100 feet deep at the bridge abutment areas. The APE also includes the area within which the historic bridge and adjacent historic structures may be directly or indirectly affected by the project. **(See Exhibit 12)**

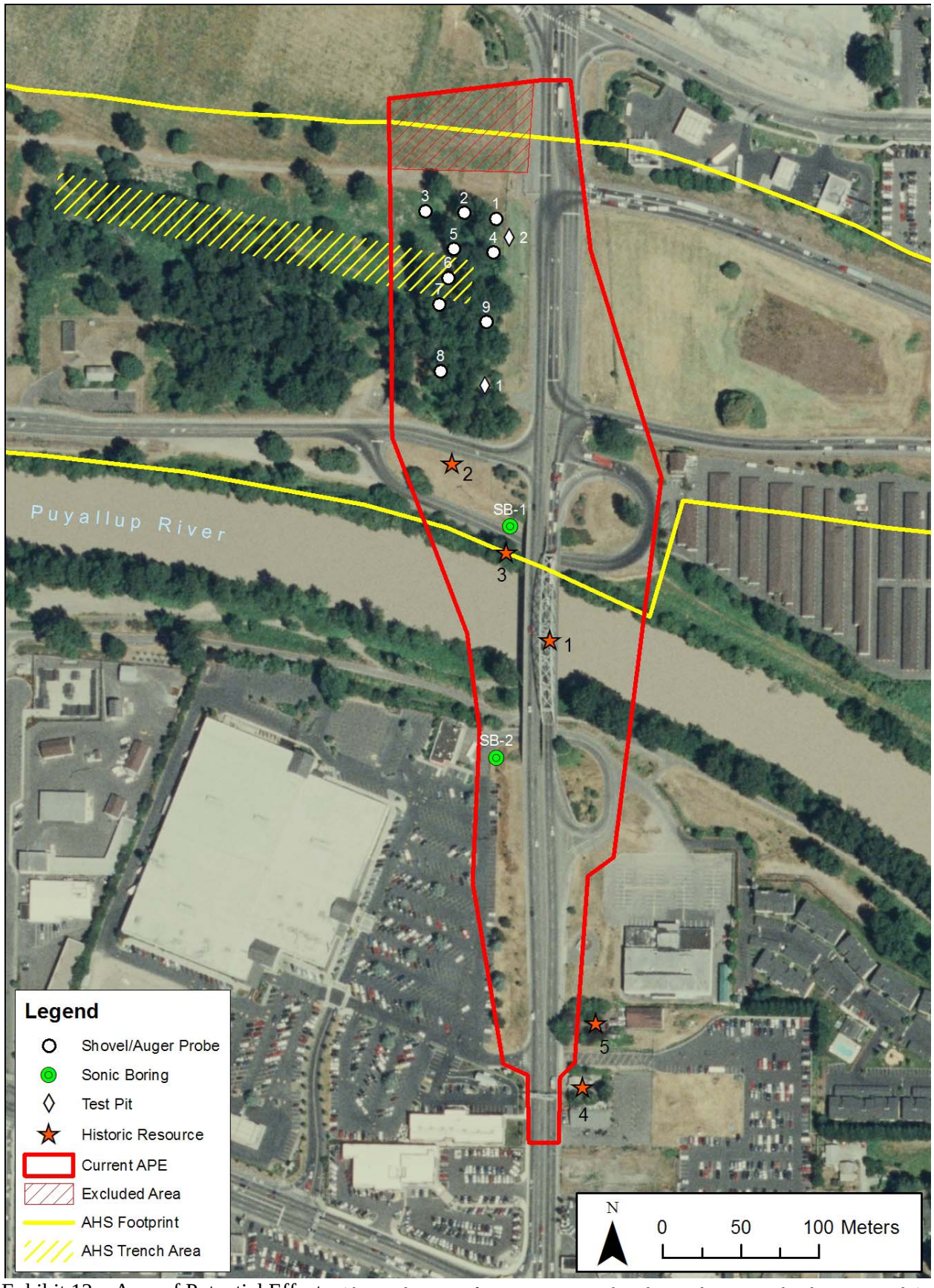

Exhibit 12 – Area of Potential Effects, (showing locations of previous survey work, and survey locations within the present study.)

Only the revised river crossing design study area, which encompasses the proposed PRBR project, was surveyed for the supplemental report. Any other areas of the 167 Extension project APE requiring Section 106 review or reevaluation will be addressed during future project phases.

3.4.2 What new studies and consultations have been undertaken?

Consultation with area tribes was reinitiated as soon as it was known that the APE may be revised. See Section 4.2 for more detail on consultation and coordination with tribes. A cultural resources survey was performed within the additional APE, and a report that supplements the previous cultural resources survey for the 167 Extension project, was completed in August 2012. The change in the current PRBR project is that the Meridian Street Bridge is eligible for listing on the NRHP, while it had not been determined eligible when the 2006 Final EIS was prepared. Therefore, the report includes the finding of an adverse effect to the historic bridge. The State Historic Preservation Officer (SHPO) concurred with WSDOT's determination of eligibility and affect call. Since historic resources are also Section 4(f) resources, an addendum to the Section 4(f) evaluation was completed. See Chapter 5 of this Draft Supplemental EIS for discussion of the Section 4(f) evaluation. See Appendix A for the cultural resources survey and Appendix B for the addendum to the Section 4(f) evaluation, for more detail.

3.4.3 What archaeological or historic resources have been identified in the APE?

No archaeological resources were identified within the extended area. Of the historic resources recorded within the APE, only the Meridian Street Bridge was determined to be eligible for listing on the NRHP. Reevaluation of the bridge for the supplemental survey yielded additional information on the unique nature of its design. The Meridian Street Bridge is currently the longest, simply supported, steel riveted Warren through truss span built prior to 1940 remaining on the Washington State highway system. The popularity of the Warren truss emerged in the late 1930s, and continued through the 1950s. Very few truss bridges were built on state-owned highways after 1960. Although a modest number of Warren trusses still remain on the system, the number has declined. Narrow bridges with restricted vertical clearance, such as through trusses, are routinely replaced by wider concrete bridges.

The Meridian Street Bridge is also significant for its unusual, perhaps unique truss configuration. As a variation from the standard Warren truss' horizontal top chord, the bridge has a parabolic top chord allowing for a longer span length than possible with the standard top chord. The parabolic configuration also avoided the need for heavier, or additional, truss components to reach the entire span length. Its subdivided panels and the addition of longitudinal members at the mid-panel heights in five truss panels achieved both strength and economy of steel. The bridge is significant for its design, which is the only one of its kind in Washington and may very well be unique in the United States if not the world, although additional research would be needed to confirm that conclusion. Despite modest alterations over the years, and additions made for safety and structural improvement, the bridge retains integrity of design, materials and workmanship, and is thus eligible for inclusion in the NRHP under Criterion C. The SHPO concurred with the WSDOTs determination of eligibility on February 8, 2012.

3.4.4 How will the Puyallup River crossing affect archaeological or historic resources?

The Puyallup River crossing would remove the existing NRHP eligible Meridian Street Bridge with either design. The funding for the PRBR project that would replace this bridge has been expedited because of the severe corrosion of the steel members and delamination of the concrete floor beams and piers. The structure is rated as *structurally deficient* based on the floor beam deterioration. The project will take the bridge out of service as part of SR 167, and remove the structure from its current location.

3.4.5 What measures will be taken to minimize effects to the Meridian Street Bridge?

WSDOT has undertaken a complete redesign of the Puyallup River crossing aspect of the 167 Extension project, in order to minimize the adverse effect to the Meridian Street Bridge. The original design required that the Meridian Street Bridge be removed as a first order of work, so that a new bridge could be constructed in its place. The revised design would construct a new bridge to the west side of the 1970 bridge, which allows the Meridian Street Bridge to remain in operation during construction of the new bridge. This also allows more time to achieve agreement on a mitigation plan, and to relocate the structure. WSDOT developed partnerships with the affected local jurisdictions and plans to reuse the Meridian Street Bridge steel truss structure in another location.

3.4.6 What measures will be taken to mitigate effects to the Meridian Street Bridge?

Because of its historic significance, WSDOT pursued ways to preserve the Meridian Street Bridge even though it will need to be removed from its present location. The local jurisdictions (King and Pierce Counties) are exploring the possibility of using the bridge on the Foothills Trail to connect Enumclaw and Buckley across the White River. If this plan does not work out, WSDOT is prepared to store the bridge and market its availability for preservation at an alternate site.

A Memorandum of Agreement (MOA) is being developed to stipulate the measures that will be taken to achieve this proposed mitigation. The MOA will also stipulate additional Section 106 review of future phases of the SR 167 Extension project in order to ensure that historic properties outside the Meridian Street Bridge, PRBR project area have been adequately taken into account. WSDOT and FHWA will continue consultation with interested parties in order to seek ways to minimize, or mitigate adverse effects to the Meridian Street Bridge that would result from the PRBR project.

3.4.7 Will there be an archaeological monitoring plan implemented during construction?

Any MOA developed for this project will include an archaeological monitoring plan as a stipulation. All stipulations of the MOA will be developed through consultation between FHWA, WSDOT, SHPO and other interested parties. The *Amended Memorandum of Agreement Between the Federal Highway Administration and the Washington State Historic Preservation Officer Pursuant to 36 CFR Part 800.6(a) Regarding the SR 167 Puyallup to SR 509 Project, Pierce County, Washington* signed in December 2009 states in part for Stipulation 4):

> "At least 90 days prior to advertising the project for construction, an Inadvertent Discovery Plan will be developed which will include any monitoring deemed necessary,..."

This measure will be included in the amended MOA.

3.5 Threatened and Endangered Species Consultation

WSDOT prepares a biological assessment for each federally funded project, when there are listed species in the area, to evaluate the potential impacts to any threatened or endangered species and the critical habitats for those species. In consultation with the federal regulating agencies, NMFS and USFWS, the biologist develops conservation measures that will be incorporated into the project design or construction plan.

3.5.1 What has changed in the project area?

Since the 2006 Final EIS and associated Endangered Species Act (ESA) Consultation was reviewed, the following conditions have changed within the study area:

- Two additional fish species have been listed as threatened – Puget Sound steelhead and the southern distinct population segment of Pacific eulachon;
- Bull trout critical habitat has been designated within the project area; and,
- Bald eagle was de-listed.

The proposed Puyallup River crossing design revision does not change the general habitat involved, which includes the river and riparian zone. The original design and the new design all fall within a footprint less than 200 feet wide.

3.5.2 What new studies and consultation have been undertaken?

WSDOT consulted with NMFS and USFWS regarding the proposed design changes involved with the Puyallup River crossing, and the proposed PRBR project. An update to the biological assessment has been prepared and submitted to the Services for their review on 07/25/2012, which evaluates the potential impacts with the revised design and the changed conditions within the study area. The ESA Section 7 formal update to USFWS has completed the necessary consultation with the service at this time. FHWA and WSDOT reinitiated consultation with NMFS and are expecting a biological opinion in December 2012. (The biological assessment update letters are attached, in Appendix C.)

3.5.3 Are there any changes to how species might be affected during construction?

The revised design for the Puyallup River crossing does not change the determination on bull trout: *may affect, likely to adversely affect.* However, with the update that has been made to the extent of bull trout critical habitat in the Puyallup River, the determination of *may affect, likely to adversely affect* on bull trout critical habitat is an additional potential effect of the 167 Extension project in the Puyallup River crossing area. The revised design does not change the original determination of *adverse affect* on essential fish habitat. There are no other changes in affect with the revised design.

The revised design will reduce the magnitude of some of the effects (underwater noise, turbidity, shading) for the Puyallup River portion of the action area. Although the specific construction methods will not be known until final plans are available from the contractor, it is anticipated that the number of piles for temporary structures in the Puyallup River may be reduced by 1/3 to ½ from the original estimate of 300 piles. This will lead to reduced sound exposure levels for listed and Chinook Salmon, fewer days with in-water pile driving and less associated turbidity, less shaded area in the river, a smaller area of impact to benthic prey organisms and a reduced in-river area for temporary structures that may affect salmonid migration.

The currently proposed PRBR project will only construct a portion of the ultimate Puyallup River crossing. When a future project is funded to remove the 1970 bridge and construct a new five-lane northbound bridge, the study area conditions and project effects will be reassessed and updated.

3.5.4 What conservation measures will be included in the project?

The construction of the PRBR project and future construction associated with the revised Puyallup River crossing would implement WSDOT standard construction practices to avoid impacts to water quality and thereby impacts to aquatic life and habitat. Additional design work on stormwater best management practices (BMPs) is in progress and staff will be conducting a stormwater analysis as plans develop. Preliminary plans show placement of a bioinfiltration swale within the northwest bridge quadrant; a feature of the revised design for this phase of work. The two bridge outfalls will also be relocated, with on additional outfalls being constructed. Final plans will be developed by the design-build contractor and will meet or exceed the design standards specified in the biological opinions, including the use of enhanced BMPs for this area. To limit in-water noise levels, piling is required to be installed to the degree possible using a vibratory hammer and impact driving/proofing will require noise reduction measures. In-water work will be timed to avoid adult salmon, bull trout and steelhead migration. Full containment will be required during demolition work to prevent debris from falling into the river. Additionally, the project will follow the provisions of all applicable permits and approvals **(See Section 1.8)**.

3.6 Water Resources

3.6.1 What is similar between the 2006 FEIS and the proposed design in terms of water resources?

There would be no difference in the amount of impervious surface with the completed project. The revised design would not differ in impacts to ground water or surface water. Within the very limited extent of river and shoreline involved in this study area, there is no difference in permanent impacts or mitigation of the completed Puyallup River crossing portion of the 167 Extension project with either alignment of the structures. Both designs would remove the Meridian Street Bridge, and ultimately construct a new five-lane northbound bridge structure.

The 2006 FEIS presented only a preliminary design for the new bridge structure, but estimated a maximum of four permanent piers located within the ordinary high water mark of the river (2006 FEIS p. 2-23). With in-water work restricted to a six week window (July 15 – August 31), in-water work is expected to span two construction seasons. These aspects of the Puyallup River crossing are not expected to be different, since no further design of the five-lane northbound structure has been developed.

3.6.2 What are the differences between the 2006 FEIS and the proposed design in terms of water resources?

To construct the bridge replacement as proposed in the 2006 FEIS, two temporary trestles and one temporary detour bridge would be necessary. It was originally expected that one of the temporary work trestles would need to extend the full width of the river. Each temporary structure would involve installation and removal of multiple piles.

However, in the proposed PRBR design revision the work would shift the Puyallup River crossing to the west approximately 100 feet, downstream. The proposed project greatly reduces the need for a temporary work trestle by using the 1970 bridge to stage materials and equipment. The proposed project will require the construction of an in-water work trestle approximately 30’ by 100’, as opposed to a 30’ wide trestle the full 300’ width of the river, as proposed in the 2006 FEIS. This in-water work trestle will extend from the ordinary high water mark on the river bank, into the Puyallup River and will be used to construct the in-water bridge pier.

3.6.3 How will water resources be affected during construction of the Puyallup River Bridge Replacement project?

The proposed PRBR project would construct a new two-lane bridge to the west of the 1970 bridge. The preliminary design for the proposed new two-lane southbound bridge has one permanent in-water piers. This design will allow for material and equipment to be staged off of the 1970 bridge, reducing the need for a work trestle to access the in-water piers to a 30’ by 100’ work platform. No temporary detour structure will be required since the new structure would be built off line, while both north and south-bound traffic is temporarily diverted to the Meridian Street Bridge during construction. This minimizes impacts to the river and shoreline.

Best management practices, permit conditions, and other measures to avoid or minimize impacts to the water during construction will be the same as they would be with the previous bridge replacement design.

3.7 Traffic

The traffic study to predict the baseline traffic and growth rate for the 2006 FEIS was reported in the 2008 Traffic Analysis Report by Perteet, Inc. This analysis used 2005 traffic volumes for the baseline, and projected volumes to year 2030. In May 2012, WSDOT updated this analysis using 2011 traffic data as a baseline, and projected volumes to year 2035, to determine the need for additional analysis. The finding was that the traffic modeling results in the 2008 analyses are higher than the updated results. Therefore, it was

determined that the revised design for the Puyallup River crossing would not negatively affect traffic. The technical memorandum is attached in Appendix A.

3.7.1 What is similar between the 2006 FEIS and the proposed design in terms of traffic?

The ultimate Puyallup River crossing configuration, as part of the 167 Extension project, would require two southbound lanes and five northbound lanes. The northbound lanes would include two left-turn, one through, and two right-turn lanes connecting to the proposed SR 167/SR 161 interchange, located just north of the river crossing bridge. The Meridian Street Bridge is currently rated structurally deficient. With either design, the Meridian Street Bridge would be taken out of service for vehicular traffic, and removed from its location.

With either Puyallup River crossing design, the new replacement bridge will provide at least standard sidewalks and meet Americans with Disabilities Act requirements. With either Puyallup River crossing design, the proposed project will maintain all connections with local roads and will be compatible with the proposed new interchange.

3.7.2 How will the currently proposed PRBR project affect traffic during construction?

During construction, there will be short term closures or lane restrictions on some local roads and access points. These restrictions will be very limited due to the proposed bridge design that constructs the new bridge to the west of the 1970 bridge, while the existing bridges remain open to traffic. Bicycle and pedestrian traffic will be maintained throughout construction.

The likely material haul routes will be SR 167 and SR 410 to access local material sites, and Valley Avenue to access pre-cast facilities at the Port of Tacoma. WSDOT is not anticipating the need to use local roads for the operation of construction equipment and hauling trucks.

3.8 Indirect and Cumulative Effects

The 2006 FEIS discussed indirect and cumulative impacts with regard to each resource in Chapter 3. The cumulative impacts on critical resources were discussed in Chapter 3.17. The proposed revised design of the Puyallup River crossing as part of the 167 Extension project will not change the indirect and cumulative effects of the 167 Extension project.

Chapter 4 Public, Agency and Tribal Coordination

WSDOT will continue to meet with regulatory agencies and interested parties to resolve any environmental issues that may occur during project design and construction.

4.1 Consultation with the Public

Extensive consultation with the public and interest groups was conducted during the 2006 FEIS process. The information is available in Chapter 1 of the SR 167, Puyallup to SR 509 2006 Final EIS. WSDOT will provide this Draft Supplemental EIS to the public and agencies for their comments. The Draft Supplemental EIS will be available in Pierce County offices and libraries for review by the public and all interested parties.

WSDOT created a webpage for the PRBR project in November 2011 to provide current information about the project, and contact information for the design office. The project webpage was updated every month to highlight progress on the project.

WSDOT met with the Puyallup Valley Kiwanis in April 2012 to discuss the project with them. WSDOT will meet with any interested groups and provide project information.

During construction, WSDOT will coordinate with the Pierce County Sheriff, Washington State Patrol, and local emergency services.

4.2 Consultation with Tribes

WSDOT is committed to government–to-government consultation with interested tribes in the project area. The consultation process under Section 106 of the National Historic Preservation Act (16 USC 470f and 36 CFR 800) is continuing with the current PRBR project. WSDOT follows the Model Comprehensive Tribal Consultation Process for the National Environmental Policy Act (information available on the WSDOT Web site) when coordinating with tribes. This model provides a consistent method of tribal consultation and opens a channel of communication between WSDOT and tribes whose area of interest is within the project boundaries.

The Puyallup Tribe was interested and involved during the Tier II EIS process. At that time, a Section 106 MOA was developed in consultation with the Puyallup Tribe and with other consulting parties. In November 2011, WSDOT met with Brandon Reynon, Puyallup Tribe Archaeologist and Bill Sullivan, Puyallup Tribe Natural Resources Manager, as the PRBR project planning was beginning. Consultation with Muckleshoot Tribe, Squaxin Island Tribe, and Yakama Nation, was also reinitiated in the early stages. In January 2012, all interested area tribes were asked to review and comment on the APE that would be surveyed for archaeological and historic resources. In March 2012 Brandon Reynon, of the Puyallup Tribe of Indians, attended the initial Section 106 Consulting Parties meeting for this phase of work. The concerns of the Tribe presented at this meeting included: possible impacts to fish habitat or tribal fishing during construction and any impacts to native archaeological sites within the project's APE. WSDOT committed to scheduling further meetings for the consulting parties and to continuing communicating with the Tribe. The cultural resources survey report was sent to all four tribes on September 5, 2012 for their review and comments. WSDOT will also request each interested tribe to be involved in all revisions to the MOA that are developed as a mitigation measure for the adverse effect on the Meridian Street Bridge.

4.3 Consultation with Agencies

WSDOT coordinates with agencies that are responsible for issuing environmental permits and who have special expertise in project related environmental fields. This coordination is accomplished through e-mails, verbal contacts and official letters. In addition to coordination on the environmental analyses discussed in Chapter 3, the following agencies will be asked to provide comments on the Draft Supplementary EIS:

- Federal Highway Administration
- City of Puyallup
- King County
- Pierce County
- Washington State Patrol
- US Army Corps of Engineers
- United States Department of Interior
- Washington State Department of Fish & Wildlife
- Washington State Department of Ecology
- United States Environmental Protection Agency
- United States Fish & Wildlife Service
- National Oceanic and Atmospheric Administration-National Marine Fisheries Service
- Washington State Department of Archaeology & Historic Preservation

Extensive consultation was done with agencies during the 2006 Tier II EIS process. The coordination efforts with different agencies have been documented in Chapter 1 of the SR 167, Puyallup to SR 509 Tier II 2006 FEIS.

WSDOT met on December 2011 with the City Manager of Puyallup to discuss the preliminary design and the status of the PRBR project. In January 2012, the project details were presented to the Puyallup City Council. The Puyallup City Council was provided with a project update on September 4, 2012.

WSDOT coordinated with the King County Capital Project Manager to discuss the project and potential re-use of the steel truss structure as a pedestrian bridge for the Foothill Trail. WSDOT is also coordinating the project with the Pierce County Civil Engineer.

WSDOT also met with the Pierce County public television station to produce a video feature that discussed the project. The story was aired in April 2012 on 'Rainier Country.'

An update to the biological assessment (BA) for NMFS and USFWS was developed under guidance of Section 7 of the Endangered Species Act. The BAs consider how the project will affect species listed on or eligible for listing on the federal Endangered Species List. The BA updates were sent to the services for their concurrence or further consultation on July 25, 2012.

Section 106 Consultations

The SR 167 corridor extension project underwent National Environmental Policy Act (NEPA) and Section 106 review between 1991 and 2006. The resulting NEPA review documented Section 106 consultation culminating in execution of an MOA. While the corridor extension project had always proposed replacement of the Meridian Street Bridge, it was not deemed eligible for the NRHP at the time of the 2006 FEIS and Section 106 consultation. Funding for an interim phase of the corridor extension project was dedicated by the 2011 legislature to address structural deficiency found to exist with the Meridian Street Bridge. Through a December 20, 2011 letter, WSDOT initiated ongoing consultation on a slightly refined APE for this funded phase of the SR 167 Extension project. WSDOT also determined the Meridian Street Bridge to be eligible for the NRHP at that time.

Archaeological fieldwork for this phase of work was performed between March and May and the cultural resources discipline report was finalized on August 2, 2012. On August 28, 2012, the cultural resources discipline report was provided to DAHP for review and SHPO concurrence with the determination of Adverse Effect for the project, due to the anticipated effects to the Meridian Street Bridge. SHPO concurred with the determination of Adverse Effect on October 8, 2012.

To date, WSDOT and FHWA have convened four meetings (March 26, June 20, October 9, and November 27, 2012) with consulting parties to resolve adverse effects to the Meridian Street Bridge.

- **3/26/12 Initial Section 106 Consultation Meeting –** Project description and background were presented along with a preservation strategy for the historic Meridian Street Bridge that would have it moved and re-erected on the Foothills Trail. WSDOT agreed to share the engineering estimate of cost and feasibility of moving the bridge for use on the Foothills Trail, with the consulting parties once it is complete. WSDOT also agreed to maintain regular communications with the consulting parties, including scheduling another meeting and to continue exploring preservation strategies for the bridge.
- **6/20/12 Section 106 Consultation Meeting –** Consulting parties met again to discuss the project. The completed engineering estimate to move the bridge and re-erect it for use on the Foothills Trail was presented. Representatives from King and Pierce Counties presented details of possible funding opportunities to fund the Foothills Trail preservation option.
- **10/9/12 Section 106 Consultation Meeting –** Status of Foothills Trail preservation option was discussed. King County, Pierce County, City of Buckley and City of Enumclaw are all committed to seeking funding to use the Meridian Street Bridge to complete the Foothills Trail. SHPO concurrence of Adverse Effect was discussed as well as items that should be covered by an MOA resolving adverse effects to the Meridian Street Bridge. Draft MOA was distributed. Consulting parties agreed that the best option for saving the bridge is moving it from its current location onto dry land as part of the SR 167 Puyallup River Bridge Replacement project and seeking funding to reuse the bridge on the Foothills Trail.
- **11/27/12 Section 106 Consultation Meeting** – The second draft MOA and Meridian Street Bridge Treatment Plan were discussed, and the consulting parties provided comments and suggestions for improvement of the MOA and Treatment Plan.

WSDOT and FHWA will continue Section 106 consultation to resolve these adverse effects. Per the existing project MOA, which is being amended to resolve adverse effects to the Meridian Street Bridge, and per standard operating procedures, WSDOT will, on behalf of FHWA, review the SR 167 corridor APE as future phases begin final design in order to take into account their effects on historic properties.

Chapter 5 – Section 4(f) Evaluation

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. §303, declares that it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project … "requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if –

(1) There is no feasible and prudent alternative to using that land; and

(2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

WSDOT evaluated the Section 4(f) resources for the State Route 167 Extension project in Chapter 5 of the 2006 FEIS. Five historic properties and one archaeological site eligible for listing in the NRHP and six recreational areas were identified as eligible or potentially eligible Section 4(f) resources that would be *used* by the project. The Section 4(f) evaluation report was prepared and was available as Appendix "H" of the 2006 FEIS.

This phase will replace the Meridian Street Bridge (167/20E) and is a small phase of the larger SR 167, Extension project. This Puyallup River steel truss bridge was not eligible for the NRHP in 2006 when the 4(f) evaluation was prepared. Now it is determined eligible for NRHP.

An addendum to the original Section 4(f) evaluation is now prepared for the Puyallup River Bridge which will be available in Appendix B of this Draft Supplemental EIS.

5.1 What are the additional Section 4(f) resources?

During a recent review of the status of the SR 167 Puyallup River steel truss bridge, WSDOT determined the bridge is now eligible for listing in the NRHP. The State Historic Preservation Officer (SHPO) has also concurred with WSDOT's determination.

5.2 What is the background and description of the Section 4(f) resources?

The SR 167 Puyallup River Bridge is designated bridge number 167/20E by the Washington State Department of Transportation and it is located at milepost 6.40 just outside the City of Puyallup. The existing steel truss bridge, built in 1925, is structurally deficient; the steel members are exhibiting severe corrosion and the concrete deck and piers are delaminating.

The Puyallup River Bridge is 371 feet long. The traveled lane width on the bridge is 21 feet from curb to curb with a 5 foot wooden sidewalk structure attached to the right side of the bridge. In January of 2011, WSDOT implemented a load restriction requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. This was due to floor beam deterioration detected during a routine bridge inspection. In addition, the width of the bridge does not meet current standards for lane and shoulder widths, which is problematic due to the high volume of truck traffic that utilizes the bridge. As a result, the bridge is repetitively damaged due to traffic impacts to the barriers and sides of the bridge, which adds to the need for replacement of this structure.

The structure is rated as *structurally deficient* based on the floor beam deterioration. Due to the magnitude of deterioration of the structure, annual maintenance costs will begin to rise dramatically unless major rehabilitation of the structure occurs.

Since original construction of the bridge in 1925, two major projects have taken place to lengthen the life span of the bridge. The first project occurred in 1951, and it replaced the approach spans with new wooden truss structures. In 1991 a second project took place that added new horizontal members to the main steel truss structure, replaced the end bearings, replaced the expansion joints and overlaid the slab. Since those projects have occurred, routine maintenance has occurred with repairs consisting mainly of replacing sheared rivets and spalled concrete.

5.3 What are the avoidance measures taken to protect Section 4(f) resources?

The goal of this phase is to provide bridges and a roadway profile compatible with the larger SR 167 Extension project, which is currently in the preliminary engineering stage and for which new right of way has been acquired.

Several alternatives to removing the bridge, and avoiding a Section 4(f) resource, have been considered. No alternative to removing the bridge was determined to be a feasible and prudent alternative to the use of the Section 4(f) resource. Alternatives considered include*: No Build, Rehabilitation of the Existing Steel Truss, Preserve Steel Truss / Construct New Bridge & Alignment and Remove Steel Truss / Construct New Bridge.*

- The *No Build* alternative is not prudent because it does not meet the project's purpose and need. Specifically, the *No Build* would not provide a structurally sufficient bridge that meets current standards, would not accommodate an interchange, and would not accommodate truck traffic on SR 167.
- *Rehabilitation of the Existing Steel Truss* was also rejected in the EIS as five lanes will be necessary for the ultimate configuration of northbound traffic instead of the present two lanes. The rehabilitation issue was again considered for this phase of work and concerns are identified below.
- The *Preserve Steel Truss / Construct New Bridge & Alignment* alternative would construct a new bridge on an alternate alignment, and preserve the existing steel truss bridge in place. This alternative is not feasible or prudent due to the challenges related to maintaining the structural integrity of the bridge for an extended period of time, lack of funding required to maintain the bridge and because the bridge must be displaced to construct the ultimate SR 167/161 interchange.
- The *Remove Steel Truss / Construct New Bridge* alternative would construct a new bridge in place of the existing steel truss. This alternative would not avoid the use of the Section 4(f) resource. Additionally, because the bridge would have to be removed as a first order of work, it would constrain the amount of time WSDOT would have to locate a site to preserve the bridge and secure the necessary funding from a third party.

Rehabilitation of the bridge is not a feasible and prudent alternative to use of the Puyallup River Bridge/Meridian Street Bridge. There are two primary issues to address in considering preserving the steel truss Puyallup River Bridge in its current use for vehicular traffic. The first and immediate concern is the deteriorated condition of the floor beams. Replacing the floor beams would be very costly and would cause significant short term traffic and environmental impacts. Also, the steel truss does not meet the current seismic code and will require extensive seismic retrofit work. This work would create significant aesthetic impacts to the truss, thus impacting its historic value. The second issue involves capacity and safety concerns. The current bridge width is too narrow to safely carry two lanes of traffic, in particular considering the high volume of truck traffic. To widen the structure, virtually all of the horizontal steel members would need to be replaced and the layout of the members would also change. This drastic change to the steel truss would virtually eliminate its historical value.

The project team investigated the surrounding area to determine if the steel truss could be moved upstream and utilized as a pedestrian facility. There are no pedestrian facilities or destinations on the north side of the river, so it is not likely the bridge would be utilized by pedestrians in the vicinity of its present location. In addition, there would be significant right of way costs associated with moving the bridge to a location near where it is currently.

Therefore, there is no feasible and prudent alternative to the use of Puyallup River Bridge/Meridian Street Bridge.

5.4 What are the measures taken to minimize the harm to Section 4(f) resources?

DAHP concurred with the determination of Adverse Effect on October 8, 2012. All prudent measures have been considered to minimize harm and to provide necessary mitigation of Section 4(f) property as detailed below: (FHWA and WSDOT will negotiate with DAHP before finalizing,)

1. WSDOT will arrange to remove from its current location, store and maintain the NRHP eligible steel truss structure to preserve it for an alternate use.

2. The documentation of the Puyallup River steel bridge will be completed in accordance with the Historic American Engineering Record standards.

3. Agreement between SHPO and FHWA has been reached through the Section 106 process of the National Historic Preservation Act and an MOA is being drafted which details measures to minimize harm.

4. In the event it is not economically feasible to re-use the steel truss bridge for the Foothills Trail, WSDOT is prepared to store the bridge and advertise its availability for preservation at an alternate site. The advertisement of the availability of the bridge would occur as soon as it became apparent that the current plan was not feasible. The steel truss would remain in-place until the end of the current project in late 2015, being advertised the entire duration. If no alternative interested parties came forward during that time, WSDOT would remove the steel truss from its current location and store it until 2019 at which time funding for further storage and maintenance of the bridge would be evaluated.

5.5 What type of coordination will be done to mitigate impacts to Section 4(f) resources?

WSDOT has negotiated with King and Pierce Counties regarding the potential for use of the Puyallup River steel truss on the Foothills Trail connecting Enumclaw and Buckley across the White River. King and Pierce Counties were very receptive to the potential preservation of the truss on their trail system and the counties proceeded with further engineering analysis to confirm that the structure could be successfully refurbished and relocated to the trail crossing. The engineering analysis was completed in June of 2012. The result of the analysis was that to re-use the steel truss will cost an additional $1.6 million more than constructing a new, narrower pedestrian bridge. WSDOT is now working with King and Pierce Counties to apply for grants and obtain funding to bridge the gap in project cost. Preservation and use of the steel truss as a pedestrian facility would be a positive result of the project, and WSDOT will continue to pursue this as the preferred alternative.

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Appendix A New Discipline Studies and List of Preparers

Cultural Resources

Craig Holstein & Roger Kiers, WSDOT, Environmental Services Office, August 2012, *State Route 167 Puyallup River/Meridian Street Bridge Phase, SR 167 Extension – Puyallup to SR 509 Freeway Construction Project*
Pierce County, Washington Discipline Report (Short Report DOT 12-10).

Traffic Analysis

Jim Norman, WSDOT, Olympic Region Traffic Office, February 2012, *SR 167 – Puyallup to SR 509 Environmental Impact Statement* Memo.

John Donahue, WSDOT, Olympic Region Planning Office, May 2012, *Traffic forecasting update for the SR 167 Puyallup River Bridge* Memo.

Draft Supplemental EIS – Preparers

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Cultural Resources Discipline Report

State Route 167 Puyallup River/Meridian Street Bridge Phase, SR 167 Extension – Puyallup to SR 509 Freeway Construction Project, Pierce County, Washington

Cultural Resources Program Report No. 12-10

Roger Kiers, M.A.
Craig Holstine, M.A.

August 2, 2012

Washington State
Department of Transportation
Environmental Services Office
PO Box 47332
Olympia, WA 98504-7332

Executive Summary

The Washington State Department of Transportation (WSDOT) is proposing the State Route (SR) 167 Puyallup River/Meridian Street Bridge Project to construct a new two-lane, three-span bridge across the Puyallup River on State Route (SR) 167 and to take the existing Meridian Street Bridge out of service. The project is located in the City of Puyallup, Pierce County, in Township 20 North, Range 4 East, Sections 21 and 22.

This bridge project is a recently-funded phase of a larger undertaking – the SR 167 Extension – Puyallup to SR 509 Freeway Construction Project – which is an unfunded corridor project that will extend SR 167 between SR 161 in Edgewood and SR 509 in Tacoma. The northbound lanes of SR 167 currently cross the Puyallup River on the existing Meridian Street Bridge (Bridge No. 167/20E), which is a structurally deficient steel truss bridge built in 1925 and modified in 1951. The bridge was added to the *P2 Program Bridge Replacement List* funded in the 2011-2013 biennium and the Legislature subsequently mandated that this project use the Design-Build process for project delivery. A new two-lane, three-span bridge over the Puyallup River is proposed downstream of the current crossing. Approaches and new alignments will also be constructed to tie into the existing highway. Project work will include bridge piers, abutments, roadway approaches, bridge superstructure, and improvements to the stormwater system.

As part of the SR 167 Extension – Puyallup to SR 509 Project documentation completed in 2000, the existing Meridian Street Bridge was determined not eligible for listing in the National Register of Historic Places (NRHP). However, recent reevaluation has indicated that the bridge is eligible for the NRHP under Criterion C. In addition to documenting and evaluating the Meridian Street Bridge, the current report supplements the cultural resources survey previously completed for the SR 167 Extension Project between 2000 and 2004 by Archaeological and Historical Services (AHS) (Luttrell 2004), in order to assist the Federal Highway Administration (FHWA) and WSDOT in compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA). The current effort included drilling of sonic boreholes where deep excavation will be required for the new bridge abutments, excavation of shovel probes within an area of proposed stormwater improvements, and an inventory of additional historic structures within the Meridian Street Bridge Area of Potential Effects.

No archaeological resources were identified within the Meridian Street Bridge project area. Of the historic cultural resources recorded within the project area, only the Meridian Street Bridge is eligible for listing in the NRHP. WSDOT and FHWA will continue Section 106 consultation and seek ways to avoid, minimize, or mitigate adverse effects to the Meridian Street Bridge.

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Project Description and Location

The Washington State Department of Transportation (WSDOT) is proposing the State Route (SR) 167 Puyallup River/Meridian Street Bridge Project to construct a new two-lane, three-span bridge across the Puyallup River on State Route (SR) 167 and to take the existing Meridian Street Bridge out of service. The project is located in the City of Puyallup, Pierce County, in Township 20 North, Range 4 East, Sections 21 and 22 (Figure 1).

This bridge project is a recently-funded phase of a larger undertaking – the SR 167 Extension – Puyallup to SR 509 Freeway Construction Project – which is an unfunded corridor project that will extend SR 167 between SR 161 in Edgewood and SR 509 in Tacoma. The northbound lanes of SR 167 currently cross the Puyallup River on the existing Meridian Street Bridge (Bridge No. 167/20E), which is a structurally deficient steel truss bridge built in 1925 and modified in 1951. In 2011, WSDOT implemented a load restriction requiring vehicles larger than 10,000 pounds to use the right lane only, due to floor beam deterioration that was detected during a routine bridge inspection. The bridge was added to the *P2 Program Bridge Replacement List* funded in the 2011-2013 biennium and the Legislature subsequently mandated that this project use the Design-Build process for project delivery. The goal of this project is to provide bridges and a roadway profile compatible with the larger SR 167 Extension – Puyallup to SR 509 undertaking, which is currently in the preliminary engineering stage and for which new right-of-way has been acquired.

The new two-lane, three-span bridge over the Puyallup River will have abutments on both banks and a pier in the river. Approaches and new alignments will also be constructed to tie into the existing highway. The new bridge will require a higher profile than the existing roadway to provide adequate clearance over frontage roads on both sides of the Puyallup River. Retaining wall construction will be included to minimize right-of-way impacts. Project work will include bridge piers, abutments, roadway approaches, bridge superstructure, and some grading and re-vegetation. It also includes improvements to the stormwater system, which, on the west side of SR 167 north of the river, will be completely replaced, including construction of a stormwater retention pond.

Project History

The Federal Highway Administration (FHWA) approved the Tier I Environmental Impact Statement (EIS) for the larger SR 167 Puyallup to SR 509 undertaking, identifying a preferred route, in 1999. WSDOT began further study of the selected corridor in spring of 1999 with the Tier II EIS, and FHWA published the Tier II Final EIS, outlining plans to avoid or lessen the undertaking's potential environmental impacts, in December 2006. FHWA approved the Tier II FEIS by signing the Record of Decision in October 2007, completing the environmental documentation process and allowing WSDOT to proceed with advanced engineering and design work. Right-of-way acquisition and engineering have proceeded as funding allowed, but construction funding has not yet been identified.

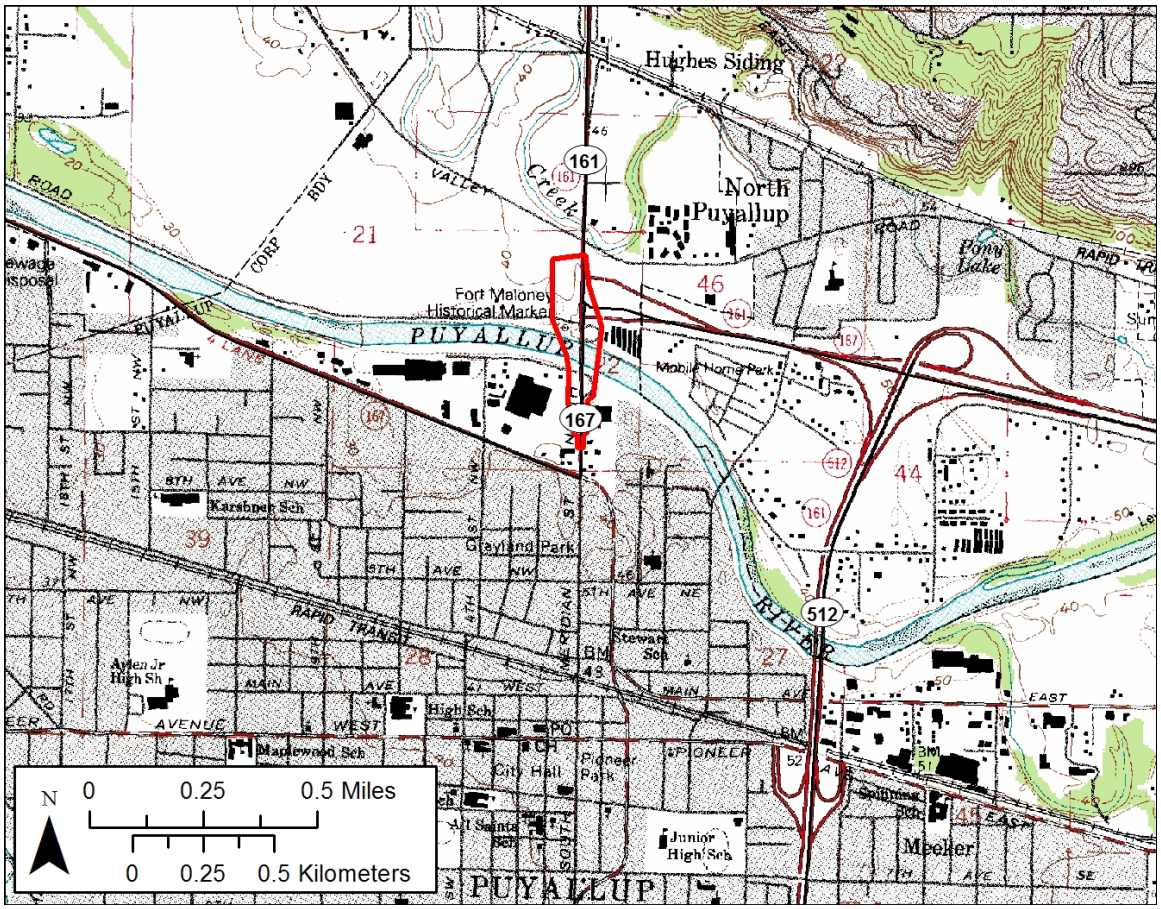

Figure 1. Project area vicinity, on USGS 7.5' Puyallup Quadrangle.

The delivery strategy identified in the SR 167 – Puyallup to SR 509 EIS was to replace the steel truss Puyallup River Bridge with a new five-lane structure and to perform a seismic retrofit and a small taper widening to the existing 1971 concrete bridge. This was to be done by utilizing a detour structure to shift northbound traffic off of the steel truss, and far enough to the east to allow a five-lane structure to be constructed. The next step was to remove the steel truss and construct the new five-lane structure. Northbound traffic would then be shifted onto the new five-lane bridge, and the temporary detour structure would be removed. The final stage was to be seismic retrofit of the existing concrete bridge and a taper widening of the north end to match into the new SR 161/167 Interchange. This configuration of five northbound lanes across the Puyallup River is necessary to accommodate anticipated traffic and attendant lane-changing in the relatively short distance between the Puyallup River and the new SR 161/167 Interchange to the north.

Since the EIS was completed, seismic standards have been revised to render retrofitting of the 1971 concrete bridge economically unfeasible. In addition, as part of the SR 167 Extension – Puyallup to SR 509 Project documentation completed in 2000, the existing Meridian Street Bridge was determined not eligible for listing in the National Register of Historic Places (NRHP). However, subsequent reevaluation indicated that the bridge is eligible for the NRHP.

In addition to documenting and evaluating the Meridian Street Bridge, the current report supplements the cultural resources survey previously completed for the SR 167 Extension Project between 2000 and 2004 by Archaeological and Historical Services (AHS) (Luttrell 2004). Particular attention is given to areas where deep excavation will be required for the Puyallup River Bridge project.

Regulatory Context

The objective of this inventory is to assist FHWA and WSDOT in compliance with NEPA and Section 106 of the NHPA of 1966, as amended, and its implementing regulation (36 CFR 800). The NHPA requires that federal agencies identify and assess the effects of federally assisted undertakings on historic properties, and consult with others to find acceptable ways to avoid, minimize, or mitigate adverse effects.

This inventory seeks to identify archaeological and historic resources within the project area of potential effects (APE), assess any identified resources for eligibility to the National Register of Historic Places, and recommend any additional measures for further characterization or evaluation of cultural resources within the APE.

Area of Potential Effects (APE)

WSDOT defined the Area of Potential Effects for the larger SR 167 Extension, Puyallup to SR 509 Project to include an area of direct effects within a 200 foot offset on either side of the new highway centerline established in the EIS process, as well as any additional right-of-way required for actual construction including interchanges, stormwater facilities, and mitigation sites. The vertical extent of this area of potential direct effects was considered to be three feet. The APE also included an additional 200 foot offset, extending 400 feet from either side of the centerline, to account for potential indirect visual or audible effects.

The APE defined for the SR 167, Puyallup to SR 509 Project did not encompass the entire area that will be affected by the replacement of the Meridian Street Bridge. WSDOT has therefore revised the horizontal and vertical APE to include all areas where ground-disturbing activities associated with the new bridge will occur as shown on Figure 2. The APE also includes the area within which the historic bridge and adjacent historic structures may be directly or indirectly affected by the project. Project work will include bridge piers, abutments, roadway approaches, bridge superstructure, and some grading and re-vegetation. It also includes improvements to the stormwater system, which, on the west side of SR 167 north of the river, will be completely replaced, including construction of a stormwater retention pond, where the depth of excavation will be up to four feet. At the locations of the new bridge abutments, which will require deep excavation, the vertical APE has been considered as 100 feet, based on the anticipated depth of the Osceola Mudflow and subsequent alluvial deposition. Only the Puyallup River Bridge project area is the subject of the current report; any outstanding areas of the larger SR 167 APE requiring Section 106 review or reevaluation will be addressed during future project phases.

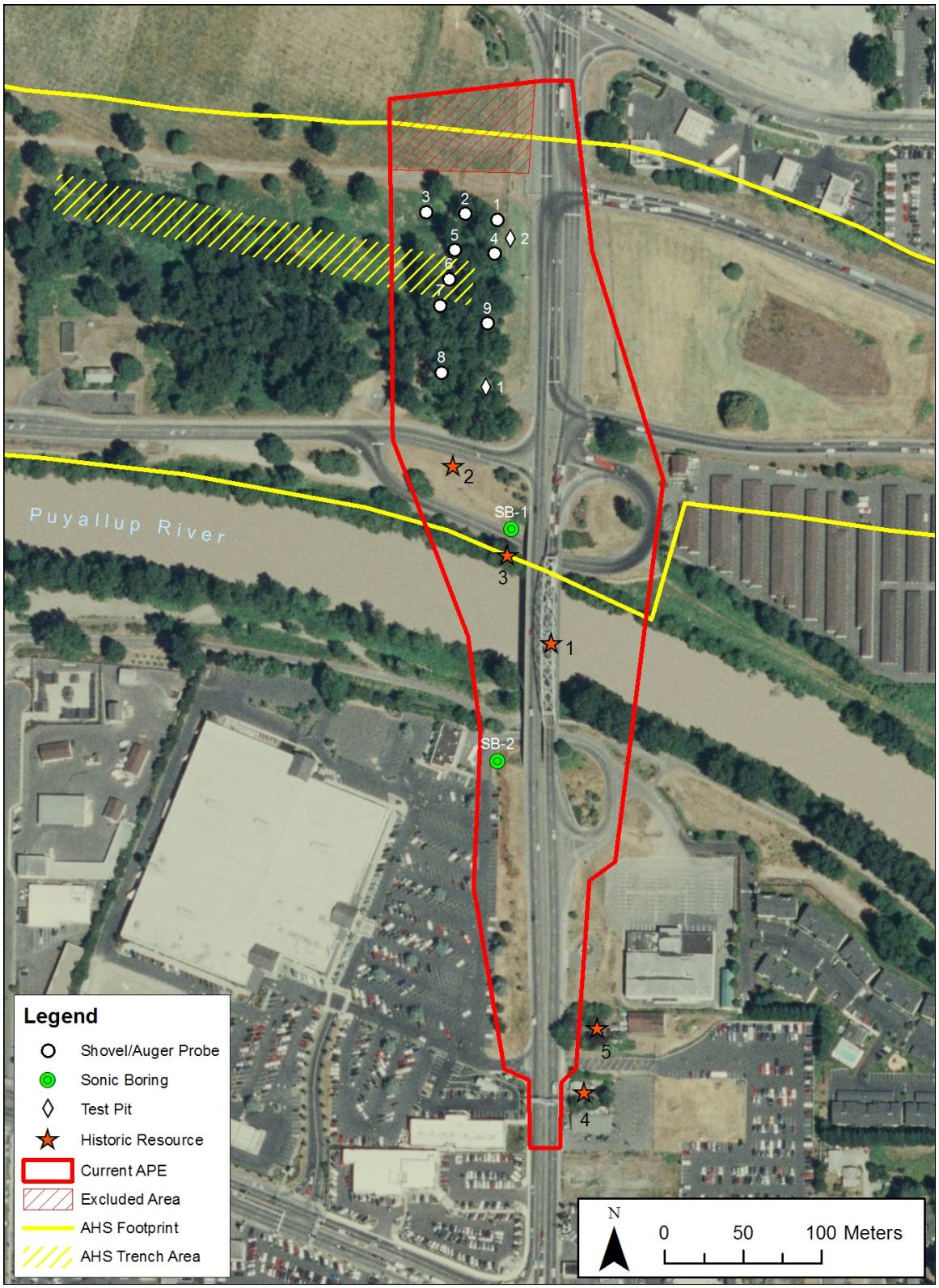

Figure 2. Area of Potential Effects, showing locations of previous survey work by AHS, and survey locations included within the present study.

NRHP Eligibility Criteria

The National Historic Preservation Act requires federal agencies to identify and consider the effects of federally assisted projects on historic properties. Historic properties generally must be at least 50 years old and meet at least one of four criteria of significance. According to the National Register of Historic Places (NRHP) Criteria for Evaluation:

> "The quality of significance in American history, architecture, archeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
> B. That are associated with the lives of significant persons in our past; or
> C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> D. That have yielded or may be likely to yield, information important in history or prehistory (NRHP)."

Amendments to Section 101 of the NHPA in 1992 allowed inclusion of eligible properties of traditional cultural or religious importance to the National Register.

Consultation

WSDOT, on behalf of FHWA, consults with the Washington State Historic Preservation Officer (SHPO) and the appropriate Native American Tribes who may have an interest in the project area, pursuant to the *First Amended Programmatic Agreement Implementing Section 106 of the National Historic Preservation Act for the Federal-aid Highway Program in Washington State Administered by the Federal Highway Administration*. In January 2012, WSDOT initiated consultation with the Muckleshoot Indian Tribe, Puyallup Tribe, Squaxin Island Tribe, and Yakama Nation. The Squaxin Island Tribe responded and deferred further consultation to the Puyallup Tribe. The Puyallup Tribal Archaeologist visited the project area during the sonic borehole fieldwork.

WSDOT also initiated Section 106 consultation with local governments and a number of individuals and organizations considered likely to have an interest in the undertaking due to potential effects to the Meridian Street Bridge. To date, WSDOT has convened two consulting party meetings, on March 26 and June 20, 2012. Section 106 consultation will continue as FHWA and WSDOT seek ways to avoid, minimize, or mitigate adverse effects to the Meridian Street Bridge that could result from the project.

Study Methodology

Records Review

Background research completed for this study included a review of available literature on the natural and cultural history of the project area, including previous survey reports on file at DAHP, with a focus on reports completed since the 2004 AHS report. Project records, including field notes, were obtained from AHS for this study, providing specific details about the methods and results of the AHS survey not included in their 2004 report.

Other archival sources included the Washington State Library, the library of the WSDOT Cultural Resources Program, the Washington Department of Archaeology and Historic Preservation (DAHP) WISAARD database, Bureau of Land Management Land Status and Cadastral Records Viewer, Puget Sound River History Project, University of Washington Library, and Pierce County Assessor's Office.

Field Methods

Archaeological fieldwork was conducted by WSDOT Archaeologist Roger Kiers, who meets the Secretary of Interior Standards for Archaeology, with assistance from WSDOT Cultural Resources Specialist Erin Littauer. WSDOT Historian Craig Holstine conducted the built environment survey.

Sonicore

Deep excavation will be required for construction of the new bridge abutments. The valley floor in the project area is covered by thick Holocene alluvium and lahar deposits, and archaeological materials could potentially be buried at significant depths. Two sonic borings were drilled to test these deep deposits on both the north and south sides of the Puyallup River. The sonic drilling method used a rapidly oscillating drill head to advance an 8-inch diameter core barrel. The resulting core sample was extruded incrementally from the core barrel into plastic sleeves. Coring started at the surface and advanced in increments of 5 or 10 feet, reaching depths of 100 feet.

The cores were examined, described, and assessed for their potential to contain intact cultural resources. Cores were stored in wooden boxes and transported to the WSDOT Materials Laboratory for further analysis. Samples considered to have the potential to contain cultural materials were selected for screening through 1/4-inch mesh hardware cloth. Sonic boring was completed by Boart Longyear using a track-mounted sonic drill, and was inspected by the WSDOT Archaeologist.

Shovel probing

Shovel/auger probes were excavated within previously unsurveyed, or inadequately surveyed, portions of the APE considered to have potential for intact archaeological deposits. Probing focused on the northwest quadrant of the APE, north of Levee Road and west of Meridian, in the area of the proposed stormwater improvements. Shovel probes measured approximately 40-cm in diameter at the ground surface and, when possible, their depth was extended through the use of an 8-inch-diameter auger. All sediments were screened through 1/4-inch mesh hardware cloth. A portion of the

northernmost end of the APE was excluded from the survey based on indications from the project office that no work was planned in that area (Figure 2).

Subsequent to the shovel probing, two backhoe test pits were excavated by WSDOT for geotechnical purposes. Both were monitored by the WSDOT Archaeologist and visually inspected for evidence of buried cultural resources.

Affected Environment

Natural Setting

The project area is located in the Puyallup River valley within a geographic province known as the Puget Trough, a valley system that extends from the Puget Sound south through the Willamette Valley, and which separates the Olympic Mountains from the Western Cascades (Franklin and Dyrness 1973). The headwaters of the Puyallup River are on Mount Rainier, and the modern delta reaches west to Commencement Bay in Tacoma.

The Puget Sound Lowland generally lacks bedrock exposures due to a thick blanket of sediments removed and deposited with the advance and retreat of the continental ice sheets that played a major role in carving out the landscape. During the most recent glacial advance, the Puget Lobe of the Cordilleran Ice Sheet expanded southward from southwestern British Columbia into the Puget Lowland. As the advancing glacier blocked northward-flowing streams, valleys were dammed, causing the formation of proglacial lakes and depositing outwash beyond the advancing glacier, and eroding subglacial channels into the drift plain (Booth 1994). As the ice sheet began to retreat at the end of the Pleistocene, meltwater drained into the lowland, creating locally broad plains of recessional outwash, proglacial lakes, and eventually incursion of marine waters through the Strait of Juan de Fuca. The glacial troughs of the lower Puyallup River and Duwamish valleys became marine embayments.

For much of the Holocene, the lower Puyallup River valley below Sumner remained an embayment of Puget Sound. Mid- to late Holocene alluvial sand, silt, and gravel have filled the former embayment with significant sediment input from lahars originating on Mount Rainier (Palmer 1997). Prior to the Osceola Mudflow approximately 5,600 years ago, the ancient Puyallup River entered the former Puyallup Embayment near the present day City of Puyallup (Dragovich et al. 1994:15; Vallance and Scott 1997). The Osceola Mudflow, or lahar, originated on Mount Rainier and flowed down the White River drainage into the Green and Puyallup drainages, blanketing a 195 square mile area with as much as 100 feet of muddy sand, gravel, cobbles, and boulders (Dragovich et al. 1994:3). Dragovich and others (1994) have reconstructed the pre-Osceola topography of the Puyallup and Duwamish valleys using the base of the Osceola Mudflow interpreted from geotechnical borings and water well logs. The pre-Osceola Puyallup delta platform appears to be at an elevation of roughly -40 ft. (present) mean sea level (MSL) near the City of Puyallup. Since that time, the Puyallup River valley has infilled from delta progradation as mudflow deposits (and other Mount Rainier source materials, including

post-Osceola lahars) have been eroded and redesposited downstream, leaving deltaic and floodplain silts and sands overlying the Osceola deposit.

Mapped soils in the project area consist predominantly of Briscot loam in the northern portion of the APE, Pilchuck fine sand near the Puyallup River channel, and fill in the southern portion of the APE (Zulauf 1979). Briscot loam formed in alluvium under hardwoods and conifers. In a typical profile the surface layer is dark brown loam about 11 inches thick. The underlying material, to a depth of 29 inches is mottled, dark grayish brown fine sandy loam and silt loam; between depths of 29 and more than 60 inches, it is mottled, very dark grayish brown sand and gray silty clay loam. Pilchuck fine sand formed in mixed alluvium under hardwoods and conifers. In a typical profile the surface layer is very dark brown fine sand about 7 inches thick. The underlying material to a depth of 36 inches is very dark brown fine sand, and very dark brown very gravelly sand to a depth of 60 inches or more (Zulauf 1979).

Cultural Setting

Human occupation of the region followed the retreat of the glaciers during the terminal Pleistocene and occurred as early as 13,800 years ago at the Manis Site on the northern Olympic Peninsula, where evidence indicates that humans were hunting megafauna with bone projectile points (Waters et al. 2011). Following this earliest period of occupation, the precontact material culture of the area has been generally described as an early adaptation of inland technologies such as Fluted Point and Stemmed Point traditions of the interior and a subsequent assimilation, transition and development to later coastal-adapted technologies focused upon marine, littoral, riverine, and inland resources (Ames and Maschner 1999). The primary economic resource base was dominated by salmon and supplemented by marine fish, mammals, riverine resources, and vegetable foods (Suttles and Lane 1990). The regional adaptation to coastal and riverine resources allowed for the cultural evolution of the distinctive, though internally variable, Northwest Coast culture pattern of complex sedentary hunter-gatherers with intensive winter villages and extensive seasonal dispersal (Ames 1994; Ames and Maschner 1999).

The project area lies within the traditional territory of the Southern Coast Salish, which refers to speakers of two Coast Salish languages, Lushootseed and Twana, who lived on and around Puget Sound and its drainages (Suttles and Lane 1990:485). Southern Coast Salish bands shared many ethnographically-described practices in common with other coastal groups. Communities congregated at winter villages, which were the primary economic and social units. During the spring, summer, and fall, smaller groups of villagers dispersed across a wide territory to gather food, and to prepare surpluses for winter use.

Within the broader Southern Coast Salish designation, the Southern Lushootseed-speaking Puyallup are directly associated with the area surrounding the Puyallup River. Puyallup villages were typically located along creeks and rivers away from shores of Puget Sound (Smith 1940:9). Villages near the project area included *tsaqwéqwabc*, where Clarks Creek emptied into the Puyallup River, approximately 2.4 miles downstream of the project area, and *stáxabc* located where the Stuck River enters the Puyallup,

approximately 1.7 miles east of the project area (Smith 1940:10). Another village was located along Wapato Creek, *sq'wádabc*, to the northwest of the project area (Smith 1940:10). T. T. Waterman recorded other named places in the project vicinity, including *Sti'lagwats*, meaning "where wild strawberries grow," for the site of the town of Puyallup, and *SExuba'lt*^{u}, meaning "dance house," referring to certain religious performances held there, for the site of the town of Meeker (Waterman 2001:250). The town of Meeker was located due east of Puyallup, centered approximately 1.3 miles southeast of the current project.

Epidemic disease, economic stress, and social disruption among the Southern Coast Salish followed the first contact and interaction with Europeans in the late 18th century (Boyd 1990; Cole and Darling 1990). With the establishment of Washington Territory in 1853 and increasing numbers of white settlers, the federal government soon desired to negotiate treaties with the Indians in the territory in order to persuade them to transfer their lands and move onto reservations. The signing of the Treaty of Medicine Creek in 1854 created the Puyallup, Nisqually and Squaxin Reservations.

The first Euroamerican settlers came to the Puyallup vicinity by wagon train, crossing over the Cascades on the Naches Pass Trail, in October of 1853. Among the early settlers in the Puyallup vicinity was John Carson, who claimed property on the north bank of the Puyallup River including land within the current project APE. Carson's 316 acres were bisected by a crude road, and Carson operated a ferry across the Puyallup River near today's Meridian Street Bridge (Bonney 1927). During Indian uprisings in 1855, Carson's family and other local settlers fled to Fort Steilacoom. A military blockhouse known as Fort Maloney was constructed in 1856 on the south bank of the Puyallup River to guard the ferry crossing. After the settling of the Indian War in 1856, Carson and his neighbors slowly returned the Puyallup area and resumed development. Fort Maloney was occupied by the Carson family upon their return, becoming known as Fort Carson. Mrs. Carson taught school there in 1861 (Bonney 1926), and a post office was established there in 1862 (Price and Anderson 2002:26). Today, a lone chestnut tree stands on the former Carson claim near a SR 167 entry ramp, just outside the project APE, reportedly the sole remnant of an orchard planted by John Carson as early as the 1850s (Luttrell 2004).

Carson's ferry eventually became inoperative, and he constructed a wooden toll bridge across the river in 1858 (Bonney 1926). By that time, the road past Carson's place and over his bridge had become a military road connecting Steilacoom and Bellingham, and the state's first telegraph line was strung over this road (ibid.). The bridge was washed out by flooding during the winter of 1862-1863, but Carson continued to operate a ferry at the crossing.

Another early settler to the area, James P. Stewart, claimed property near the Carson claim on the opposite (south) bank of the Puyallup River in 1859. In 1862, J. P. Stewart donated land for a school building that replaced Fort Carson (Price and Anderson 2002:28). Settlers who followed included John Meeker, the brother of Ezra Meeker, who arrived with his family in 1859 and claimed property adjoining the Stewart homestead.

Several years later in 1862, Ezra Meeker, who is credited as being the founder of Puyallup, joined his brother in the valley. Meeker and others went on to prosper during the hop boom of the 1880s.

Historically, the Puyallup area has been subject to extensive flooding. During one particular flood event, Stewart spent a perilous night in the riverbank schoolhouse and had to be rescued by Carson the next morning (Price and Anderson 2002:44). Stewart later approached Carson about digging a ditch across the Carson place in order to connect the river above and below the huge meander that was eroding into Stewart's property. In 1883, a Chinese contractor brought 25 laborers to dig a new channel by hand, eliminating the meander directly upstream of today's Meridian Street Bridge (Figure 3).

During a destructive flood in 1906, a massive jam formed in the lower White River causing the backflow to spill into the Stuck River, and adding another flooding river system to the already flooding Puyallup. With the White River now flowing south and the Puyallup River even more susceptible to destructive flooding, Puyallup city officials persuaded the Washington State Legislature to pass an appropriation to help straighten the Puyallup River in 1909. Significant efforts to build levees and widen, straighten, and deepen the Puyallup River between Tacoma and Puyallup began soon thereafter, including elimination of the meander directly downstream of the current project area (Figures 3 and 4) (Roberts 1920). By 1914, the river was dredged and channeled and a concrete levee was constructed from the harbor to the City of Puyallup (City of Tacoma 1981). Continued flooding eventually led to the construction of the Mud Mountain Dam on the White River, completed in 1953, for additional flood control.

In November 1924, Pierce County applied for federal aid to build a steel highway bridge across the Puyallup River, and in early February 1925 awarded a construction contract for $77,200 to the Puget Sound Bridge & Dredging Company of Seattle. In announcing the award, the Puyallup Valley Tribune noted that "The new road [Meridian Street] will considerably shorten, by the northern route, the distance to Tacoma, and will also bring the big [Puyallup Indian] Reservation district a mile closer to Puyallup (2/7/1925:1)." The bridge was finished in time for the opening of the Western Washington State Fair on 21 September 1925, but Meridian Street remained unpaved, due to refusal by the City Council to fund improvements (9/19/1925:1). Finally County Commissioner Henry Ball had the street "put in shape" for Fair traffic, despite the Council's recalcitrance (9/26/1925:1). The bridge originally carried a lane of traffic in each direction until 1971 when a concrete bridge was built immediately adjacent to the west truss to carry southbound traffic.

During the 1925 construction of the Meridian Street Bridge, the Washington State Historical Society installed a four-sided pyramidal cobblestone marker with concrete base near the northeast end of the bridge. Four incised granite slabs on the marker commemorate the 1855 warning from Abraham Salatat of the impending Indian war, the 1856 erection of Fort Maloney, the school taught by Mrs. Carson in the former blockhouse, John Carson's toll bridge, the river crossing of the military road from

Figure 3. Project area overlaid on historic maps, showing cultural features and changes to the river channel, including General Land Office plat (USSG 1864), 1890 City of Puyallup map (in Price and Anderson 2002), Kielland's (1907) map of the Duwamish-Puyallup Valley, and Kroll's Pierce County Atlas (Kroll Map Company 1915).

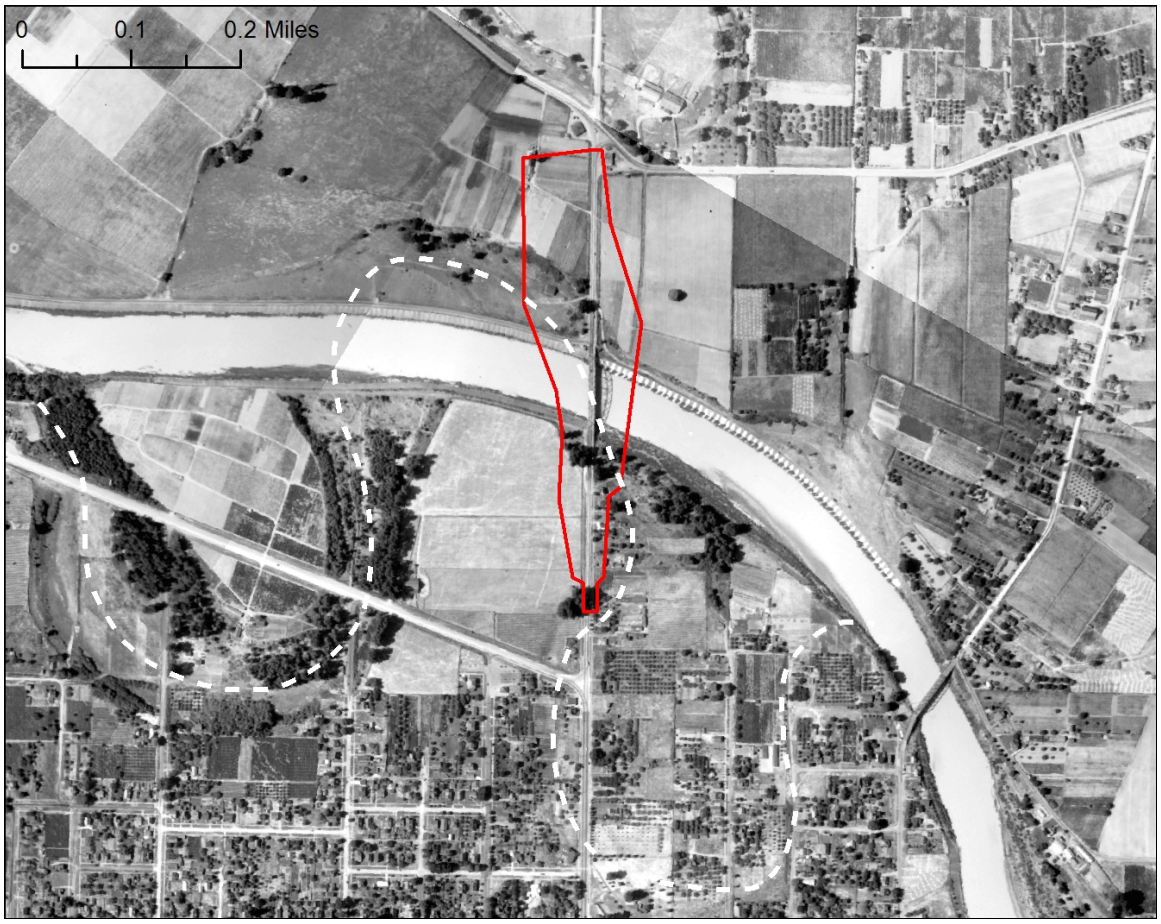

Figure 4. Project area overlaid on 1940 U.S. Army Corps of Engineers Aerial Photograph. Dashed line added to show former river meanders prior to channel straightening in the late 19th and early 20th centuries.

Steilacoom to Bellingham, and the first telegraph wire. The marker was moved roughly 220 feet west to its current location on Levee Road by WSDOT during the Meridian St. No. to Sumner No. C/L Project, which was completed in 1973.

Commercial development of former agricultural fields around the south end of the APE began in the 1960s. In 1963, the Hi Ho Shopping Center opened up southwest of the Meridian Bridge at the location of today's Fred Meyer store. Other business joined the shopping complex, and in 1966 the shopping center owners sponsored the construction of the underpass beneath the south end of the Meridian Bridge, which carries northbound shoppers to the area (Price and Anderson 2002:121). Tiffany's Skate Inn, southeast of the bridge, opened in 1969. The Fred Meyer Corporation purchased the Hi Ho Shopping Center in 1980, and eventually tore down the complex to build a new store.

Previous Cultural Resources Surveys

This report supplements the archaeological survey investigations previously completed for the SR 167 Extension Project over a four-year period between 2000 and 2004 by Archaeological and Historical Services (AHS), as summarized in their 2004 report

(Luttrell 2004). The APE for the SR 167 corridor surveyed by AHS was offset 200 ft. from centerline for direct effects, and 400 ft. for indirect effects (Figure 2). The vertical APE was 3 feet. The entire APE was subject to pedestrian survey; probing was conducted in high probability areas where right-of-entry was acquired, at 20-30 meter intervals, using either a shovel or mechanical auger.

At the south end of the SR 167 project area near Puyallup, AHS was unable to excavate shovel probes in one high potential area due to heavy vegetation and the fact that it was continuously occupied as a homeless camp for approximately 50 years. This area, described as a bench on the north bank of an abandoned meander channel of the Puyallup River, is in the vicinity of the northwest portion of the current project APE. Instead of shovel probes, AHS excavated a backhoe trench measuring ca. 265 m (870 ft.) long and 61 cm (2 ft.) wide to an approximate depth of 0.9 m (3 ft.). Two AHS archaeologists monitored the excavation of the trench and inspected, profiled, and photographed the sidewalls.

No maps of probe or trench locations are provided in the AHS survey report. Based on shovel probe records obtained from AHS, probes extended over a length of 700 meters starting at the west end of WSDOT parcel 0420214040. Based on those records, the east end of the line of probes would have extended to within approximately 250 meters of the current APE's western edge, which is at the edge of a wooded area that probably coincides with the former homeless camp. Assuming the east-west trench began near the terminus of the shovel probe line, the 870-foot-long trench would have extended into the current project APE by at least 100 feet (Figure 2). The records suggest that no AHS excavations occurred within the current project APE outside of the backhoe trench.

The current scope of archaeological survey was intended to supplement the previous work by AHS. The AHS survey acknowledged that the project area had potential for deeply buried archaeological resources but, because they were considered beyond the limits of standard testing methodology, no attempts were made to identify deeply buried sites below a depth of three feet. The AHS survey did not extend to the south side of the Puyallup River.

Subsequent to the AHS survey, two cultural resources surveys were completed along the City of Puyallup's Riverfront Trail, within a mile upstream and downstream of the Meridian Street Bridge (Shong 2003a, 2003b). The Riverfront Trail is a multi-use trail on top of, and adjacent to, the flood-control levee along the south side of the Puyallup River. No cultural resources were recorded during the survey for the upstream or downstream portions of the trail, although evidence of the historic levee is discussed, as are a series of wooden pilings within the Puyallup River. The segment of Puyallup River levee within the trail project area was described but not inventoried. According to Shong (2003b), the levee currently exists as a rip-rapped river margin, and multi-terraced landscape. A small segment of the levee exists as a two-sided earthen feature with rock and concrete rip-rap on the river side, but much of the non-river side of the project area had been filled to the levee grade obscuring all signs of the original form. The segment of levee within the trail project area did not retain its original form or design that would distinguish it as a typical

levee. Segments further downstream (and outside the trail project APE) were said to better define the original form, design and construction techniques used to build the levee, including concrete surfaces, and two-sided construction.

The City of Puyallup undertook a reconnaissance-level survey of historic buildings in its downtown in 2007, resulting in a context statement about the development of Puyallup, general observations, recommendations, and Washington State Historic Property Inventory forms for 96 properties dating from 1888 to 1964 (BOLA 2007). In 2009, the City identified the residential neighborhood northwest of downtown for additional survey at the reconnaissance level, recording a total of 33 properties dating largely from 1900 to the 1920s (BOLA 2010). Both the downtown and northwest neighborhoods are outside and south of the current project APE.

No archaeological sites have been previously recorded within one mile of the Meridian Street Bridge project area.

Expectations

The project area has a dynamic history of natural processes and cultural uses and modifications that influence the types and locations of cultural resources that can be expected within the APE. The APE has evolved from a late Pleistocene glacial trough, to an early Holocene marine embayment, to mid-Holocene delta front, to late Holocene meandering river floodplain and channel. The mid-Holocene Osceola Mudflow dramatically influenced sedimentation in the valley, and is recognized in the subsurface of the project area as a poorly sorted, deposit of gravel- to boulder-size clasts in a silty, sandy matrix, tens of feet thick. Subsequent fluvial reworking of these and later deposits has left secondary deposits of Mount Rainier source materials overlying the Osceola deposit. The formerly meandering Puyallup River channel has been straightened, leaving remnant channels and fills in the APE.

Native Americans have utilized the Puyallup River and its floodplain for thousands of years. If intact, buried surfaces remain in the APE, they could potentially contain evidence of Native use and occupation. Given the significant amount of sedimentation that has occurred in the valley, particularly since the mid-Holocene, such archaeological evidence could be deeply buried. Due to the proximity of much of the project area to the active river channel and recent land alterations, however, the probability of preservation of intact archaeology may be somewhat reduced, with higher potential further out on the floodplain. Similarly, although the APE has experienced multiple historic uses since the mid-1800s, expectations for intact historic archaeology are tempered by historic and modern developments that have altered the landscape, including channel improvements and thick fills under Meridian Street and the bridge approaches.

Results of Fieldwork

The two sonic boreholes were drilled between March 27 and March 29, 2012 under cloudy skies, with rain on the 29th. Shovel/auger probing was completed on April 24, 2012 under overcast but dry skies. Monitoring of geotechnical trenching was done on May 7, 2012.

Sonic Borings

Sonic bore #1 (SB-1) was drilled on the north bank of the Puyallup River, on the north shoulder of the SR 167 underpass to N. Levee Road, directly west of the Meridian Street Bridge (Figures 2 and 5). SB-2 was drilled on the south side of the Puyallup River, west of Meridian Street, on the grassy lawn between Meridian Street and the underpass that carries northbound traffic to and from the Fred Meyer shopping complex (Figures 2 and 6).

Both boreholes generally encountered a similar depositional sequence. Lithologic units encountered in each borehole are represented in Figure 7. Depths were measured in the field from the ground surface. In order to more easily compare data between sonic boreholes, elevations of lithologic units have been adjusted to relative mean sea level (msl) as measured from the ground surface elevation extrapolated from the LiDAR Digital Elevation Model (DEM). SB-1 was drilled from an approximate surface elevation of 35 feet msl; SB-2 was drilled from an approximate elevation of 44 feet msl.

The lithology of sediments encountered in the boreholes is designated in Figure 7 by a capital letter indicating the dominant grain size of the deposit. This capital letter is typically followed to its right by a lowercase letter describing a secondary property of the

Figure 5. View of sonic bore #1, looking southeast towards the Puyallup River bridges.

Figure 6. View of sonic bore #2 from the bridge, looking southwest towards Fred Meyer.

same deposit. For example, a primarily sandy deposit would be identified by a capital "S." A silty sand deposit would be designated "Sz." Other modifiers can be added indefinitely. The exception to this sequence are the prefixes used to describe sand grainsize classes (very fine to coarse), which are placed to the left of the sand identifier. The lithologic units defined in this way represent single depositional events that occurred under specific conditions in a particular setting. These units can then be grouped together into more inclusive strata, which represent various types of depositional events that occur together in the same overall depositional environment.

Both sonic boreholes were drilled to depths of 100 feet below ground surface, although the bottom nine feet of SB-2 fell out of the core and could not be recovered. Sediments are described below as encountered from bottom to top. At the greatest depths, fine- to coarse-grained sand was recovered (from SB-1), at an elevation of -65 to -50 feet (Figure 7). These sands were overlain by several feet of gray silt and fine sand containing a few fibrous organics and wood fragments and, in SB-2, also by dark gray medium to coarse sand and sandy rounded gravel. These sediments are interpreted as fluvial and deltaic silts and sands deposited at a time when the Puyallup River delta was near the City of Puyallup in the vicinity of the project area. This is consistent with other estimates of the elevation of the delta platform that existed in the area prior to deposition of the Osceola Mudflow (Dragovich et al. 1994; Palmer 1997).

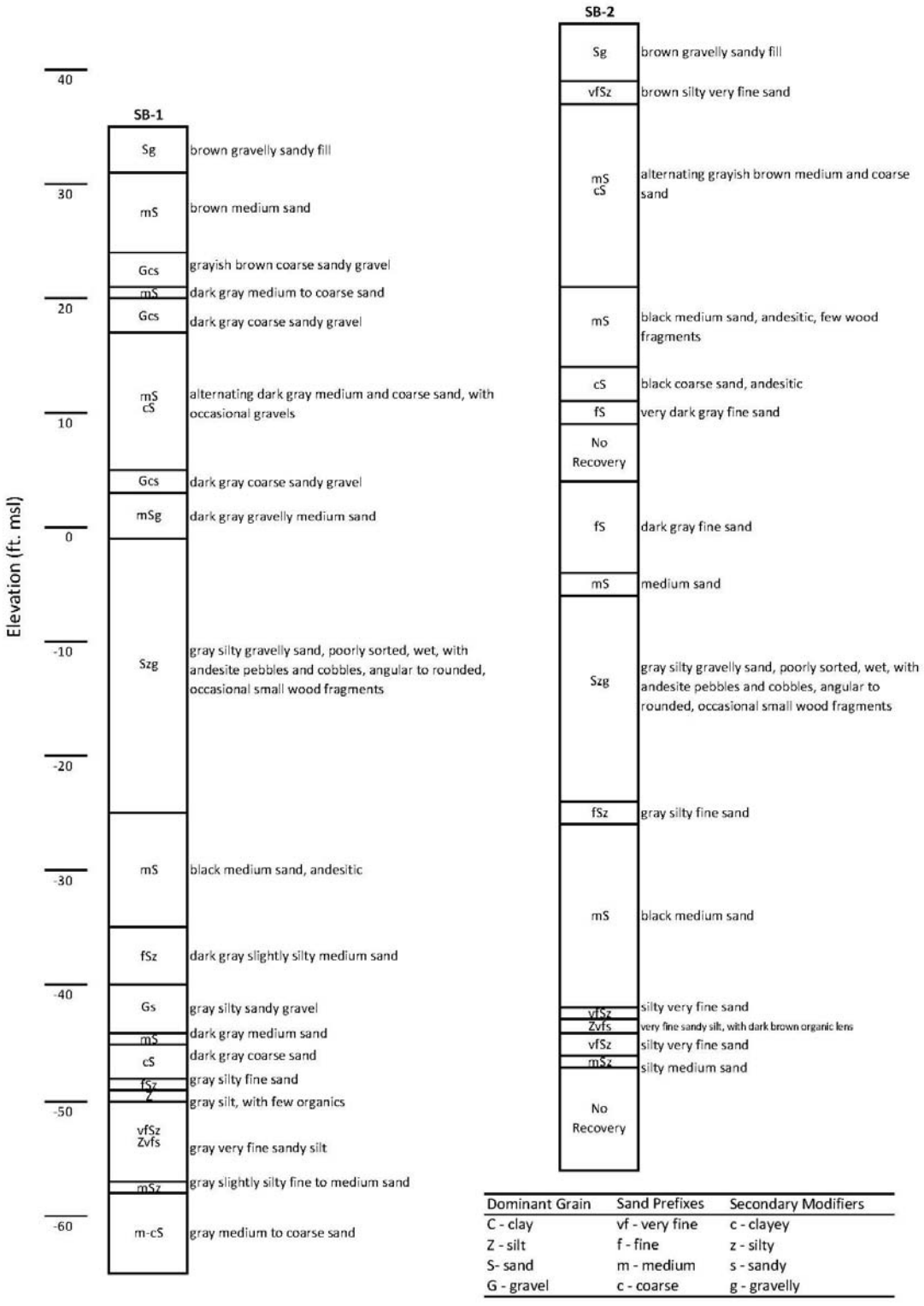

Figure 7. Sonic borehole logs.

A poorly sorted silty, sandy gravel deposit was found at a depth of -44 to -40 ft. in SB-1, but was absent from SB-2. This gravelly deposit resembles, but is clearly separate from, the later Osceola lahar deposit, and may represent a pre-Osceola lahar from the Cowlitz Park eruptive episode on Mount Rainier (Pringle 2008:35).

Figure 8. Osceola debris flow deposit in SB-1, at approximately -23 ft. msl.

Between elevations of -40 and -25 feet, a massive deposit of very dark gray to black, andesitic medium sand was encountered. The andesitic composition of the sand indicates an origin on the flanks of Mount Rainier, and it may represent a transition facies deposit left by the dilute flow front of the Osceola Mudflow (Scott 1988), or fluvial redeposition of earlier lahar sands. At an approximate bottom elevation of -25 feet, both boreholes encountered a thick deposit of poorly sorted, wet, gray muddy sand with gravels and cobbles (Figure 8). Gravels were angular to well-rounded, and were mostly andesite. A few small wood fragments were encountered as well. This deposit, interpreted as the debris flow from the Osceola lahar event, was approximately 18- to 24-feet thick in the two boreholes. Above the Osceola Mudflow in SB-1, deposits consisted of dark gray, alternating fine to coarse andesitic sands and fine gravels, representing fluvial sands and gravels deposited in and near the former river channel prior to realignment. In SB-2, gravels are largely absent above the mudflow deposit, with sediments consisting of fine to coarse fluvial sands. The andesitic composition of the sands in both boreholes indicates their origin in upstream Osceola deposits or reworking of other volcanic sources that originated on the flanks of Mount Rainier. A deposit of black volcaniclastic sand in SB-2 between 11 and 21 ft. msl may represent a late-Holocene lahar event. The uppermost deposits in both boreholes, above 21 ft. msl, are browner in color, and in SB-1 consist of medium sands likely deposited within the abandoned channel after river straightening roughly 100 years ago, either naturally during flood events, or as intentional fill during the realignment. The top five feet of both boreholes encountered more recent gravelly sandy fill likely deposited during road and bridge construction.

No evidence was observed of buried, stable surfaces likely to have preserved evidence of past human occupation.

A number of borehole logs generated for the project by the WSDOT Geotechnical Division were also examined. Two geotechnical boreholes had been drilled in close proximity to the two sonic boreholes: geotechnical borehole H-5p-11 was drilled near SB-1, and H-3p-11 was drilled near SB-2. The H-5p-11 core reached 251 feet below ground surface, and H-3p-11 reached 236 feet below surface.

Dense sands and gravels encountered below 130-140 feet below surface in both boreholes may represent Pleistocene outwash deposits, overlain by silty deposits possibly representing incursion of the Puyallup Embayment, followed by sands and silts representing arrival of the Puyallup delta. The poorly-sorted Osceola Mudflow deposits are found between depths of approximately 70 and 40 feet. These are overlain by post-Osceola alluvial sands.

Shovel/Auger Probing

A total of nine shovel/auger probes were completed in the northwest portion of the APE, reaching depths ranging from 40 to 220 cm below ground surface (Table 1). Soils ranged from silt loam to sandy loam soils that have developed within floodplain alluvium, resembling the Briscot loam mapped in the area, with thin layers of fill encountered at the surface of several of the probes. No cultural materials or evidence of intact buried surfaces were identified.

Table 1. Shovel/Auger Probe Descriptions.

Shovel Probe #	Sediments	Interpretation
1	**0-25 cm**: 10YR 3/2 very dark grayish brown silt loam, w/ 10% angular to rounded gravel including a few larger cobbles; **25-55 cm**: 10YR 4/2 dark grayish brown clayey silt, very dense	Fill above floodplain silts or fill compacted by roadway construction
2	**0-40 cm**: 10YR 3/2 very dark grayish brown loam transitioning to silty fine sand; **40-200 cm**: 7.5YR 3/4 dark brown fine sand, becomes 10YR 4/2 dark grayish brown fine sand	Soil developed in floodplain alluvium
3	**0-20 cm**: 10YR 3/2 very dark grayish brown silt loam; **20-60 cm**: 10YR 4/2 dark grayish brown silt loam; **60-105 cm**: 10YR 3/2 very dark grayish brown fine sand	Soil developed in floodplain alluvium
4	**0-25 cm**: 10YR 3/2 very dark grayish brown silt loam, w/ 10% angular to rounded gravel including a few larger cobbles; **25-55 cm**: 10YR 4/2 dark grayish brown clayey silt, very dense	Fill above floodplain silts or fill compacted by roadway construction
5	**0-20 cm**: 10YR 3/2 very dark grayish brown loam; **20-75 cm**: 10YR 4/3 brown fine sandy loam; **75-170 cm**: 7.5YR 3/4 to 10YR 3/1 dark brown to very dark gray fine sand	Soil developed in floodplain alluvium
6	**0-20 cm**: 10YR 3/2 very dark grayish brown loam; **20-90 cm**: 10YR 4/3 brown fine sandy loam; **90-200 cm**: 7.5YR 3/4 to 10YR 3/1 dark brown to very dark gray fine sand; **200-212 cm**: 10YR 4/3 brown silty very fine sand	Soil developed in floodplain alluvium
7	**0-20 cm**: 10YR 3/2 loam, with 10% rounded to angular gravel; **20-105 cm**: 10YR 4/3 brown fine sandy loam, dense	Fill above soil developed in floodplain alluvium
8	**0-35 cm**: 10YR 2/2 very dark brown gravelly loam; **35-80 cm**: 10YR 4/2 dark grayish brown fine sandy loam becoming fine sand; **80-220 cm**: 10YR 3/1 very dark gray fine to medium sand	Fill above soil developed in floodplain alluvium
9	**0-25 cm**: 10YR 3/2 very dark grayish brown silt loam, w/ 10% angular to rounded gravel including a few larger cobbles; **25-40 cm**: 10YR 4/2 dark grayish brown clayey silt, very dense	Fill above floodplain silts or fill compacted by roadway construction

Geotechnical Trenches

Two geotechnical test pits were excavated by backhoe on May 7, 2012 in the northwest portion of the APE near the previously-excavated shovel probes (Figure 2). Test pit #1, which was visually determined to be within an area of fill extending west from the

highway, encountered silt, sand, and gravel fill. The trench terminated on a broken slab of concrete at a depth of five feet. Test pit #2 was excavated to a depth of nine feet, and encountered loam soils that have developed within sandy floodplain alluvium. No cultural materials or evidence of intact buried surface were identified.

Historic Structures Survey

WSDOT Historian Craig Holstine reevaluated the Puyallup River/Meridian Street Bridge in December 2011, and surveyed the additional historic structures (dating 45 years or older) within the APE on June 8, 2012 (see Figure 2 for locations).

Puyallup River/Meridian Street Bridge

The 1925 Puyallup River/Meridian Street Bridge's main span is a 371-foot long steel riveted, subdivided Warren through truss (Figure 9). Unlike the standard Warren truss, this bridge has parabolic top chords and alternating diagonal truss members, longitudinal braces between diagonals in alternating panels, and vertical members adjacent to the portals. In 1991 the portal sway braces and interior panel sway bracing was modified to increase vertical clearance for over-sized traffic from 14 feet 7 inches to 18 feet 7 inches. Although the modifications were sensitive to the original truss configuration, retaining as much of the old bracing as possible, the truss appearance has changed somewhat when viewed from the roadway. Among the changes to the deck are the 21 inch-high metal thrie beams attached to the traffic-facing side of the trusses, reducing the roadway width by 9 inches to 21 feet. The south approach to the truss consists of a 21-foot long precast, prestressed girder span and two 19-foot long timber trestle spans (which replaced earlier timber spans), all added in 1951. The north approach consists of two 19-foot long timber trestle spans, also dating to 1951, bringing the total length of the structure to 468 feet. The truss piers are founded on timber piles, while the approach piers rest on concrete spread footings. A five-foot wide timber sidewalk is attached to the east side of the bridge. A decorative, cross-hatched lattice steel rail is attached to the outer edge of the sidewalk along the full length of the truss span, providing both improved safety for pedestrians and a somewhat aesthetic appearance to the east elevation. The bridge originally carried a lane of traffic in each direction until 1971 when a concrete bridge was built immediately adjacent to the west truss to carry southbound traffic. The modern concrete bridge rises several feet above the roadway of the historic truss bridge, detracting considerably from the aesthetics of the older bridge.

Figure 9. Meridian Street Bridge.

Fort Maloney Historical Marker

The Fort Maloney Historical Marker (Figure 10), dedicated in 1925, commemorates several important historical events that occurred in the vicinity of the Meridian Street Bridge, as described in the Cultural Setting section of this report. The

mortared cobblestone pyramid on a concrete base was moved from the Meridian Street Bridge's northern approach to its current location on N. Levee Road in the early 1970s.

Figure 10. Fort Maloney Historical Marker, looking southeast, with SR 167 bridges in background.

North Bank Puyallup River Revetment
A revetment consisting of boulders up to two feet in diameter stacked at an angle greater than 45 degrees armors the north bank of the Puyallup River under the SR 167 bridges (Figure 11). The revetment rises approximately 8 feet above an inclined base of similar sized boulders that extends into the river. Unconsolidated boulders, rocks, and gravels have been dumped atop the revetment to add protection to the roadway loop under the bridges connecting northbound SR 167 traffic with North Levee Road. Extending beyond the bridges in both directions for undetermined distances, the revetment has been built up around the piers of both the 1925-built and 1971-built bridges, suggesting its installation being cotemporaneous with, or after, the latter bridge's construction date. This rock revetment is therefore the most recent iteration of Puyallup River flood control efforts that date back to the late 1800s. No similar rock revetment exists on the south bank of the river under the bridges, although revetments and levees exist beyond the SR 167 right-of-way both upstream and downstream.


Figure 11. North Bank Revetment.

Paul A. Lindsay House
Pierce County Assessor-Treasurer's information shows this house's construction date as 1955. However, given the house's style and construction, it seems likely it was built earlier. The City Directory indicates that Paul A. Lindsay, a janitor at Maplewood School, and his wife Adolphine lived at this address in 1947. By 1950 Lindsay had become a teacher at the school. Despite his probable salary increase, it seems unlikely that the


Figure 12. Paul A. Lindsay House.

Lindsays would have built a new house here five years later. They continued living in the house at least through 1961.

Mead M. Murray House
This vernacular two-story house facing N. Meridian Street is largely screened from view by maple, oak, birch and other large trees and shrubs that have overgrown the property. In 1936 Mead M. and Wilma Murray lived in this house, which at that time was 103 N. Meridian (three years later it was 1003 N. Meridian, and by 1947 the address had become 1103 N. Meridian). The Murrays continued to live there at least through 1958. By 1961 Glen M. and Jean B. Freeman lived in the house. Pierce County records say the house was built in 1900. That date appears to be too early, given the style and materials used in the house's construction (especially the drop siding), and the probable age of N. Meridian Street. The roadway may not have existed in its present alignment until shortly before the Puyallup River Bridge was built in 1925. At the time of the bridge's construction, N. Meridian was an unimproved, unpaved roadway. It took action by a county commissioner and the approaching opening of the Western Washington Fair of 1925 to finally improve the street.

Figure 13. Mead M. Murray House.

Table 2. Inventoried Historic Properties.

Property # (see Fig. 2)	Property Name	Construction Date	NRHP Status
1	Meridian Street Bridge	1925	Eligible
2	Fort Maloney Historical Marker	1925	Not eligible
3	North Bank Puyallup River Revetment	ca. 1971	Not eligible
4	Paul A. Lindsay House	ca. 1940	Not eligible
5	Mead M. Murray House	ca. 1920	Not eligible

Assessments of Significance

Meridian Street Bridge

As part of the SR 167 Extension – Puyallup to SR 509 Project documentation completed in 2000, the existing Meridian Street Bridge was determined not eligible for listing in the National Register of Historic Places (NRHP). Reevaluation of the bridge for the current phase of the project yielded additional information on the unique nature of its design. The Puyallup River/Meridian Street Bridge is currently the longest, simply supported, steel riveted Warren through truss span built prior to 1940 remaining on the Washington State highway system. The popularity of the Warren truss emerged in the late 1930s, and continued through the 1950s. Very few truss bridges were built on State-owned highways

after 1960. Although a modest number of Warren trusses still remain on the system, the number has declined. Narrow bridges with restricted vertical clearance, such as through trusses, are routinely replaced by wider concrete bridges.

The Puyallup River/Meridian Street is also significant for its unusual, perhaps unique truss configuration. As a variation from the standard Warren truss' horizontal top chord, the bridge has a parabolic top chord allowing for a longer span length than possible with the standard top chord. The parabolic configuration also avoided the need for heavier, or additional, truss components to reach the entire span length. Its subdivided panels and the addition of longitudinal members at the mid-panel heights in five truss panels achieved both strength and economy of steel. The bridge is significant for its design, which is the only one of its kind in Washington, and may very well be unique in the United States if not the world, although additional research would be needed to confirm that conclusion. Despite modest alterations over the years, and additions made for safety and structural improvement, the bridge retains integrity of design, materials and workmanship, and is thus eligible for inclusion in the NRHP under Criterion C. The SHPO concurred with WSDOT's determination of eligibility on February 8, 2012.

Fort Maloney Historical Marker

The historical marker was previously evaluated in 2000 by Charles Luttrell, who recommended the structure not be determined eligible because "its design, age, tradition or symbolic value has not invested it with its own significance." WSDOT determined the marker not NRHP eligible in 2003, and the SHPO concurred. Since the monument does not appear to possess aesthetic values of the period of its creation; nor has it defined the historic identity of the area; nor has it come to symbolize the values, ideas, or contributions valued by the generation that erected it, the marker is not eligible for inclusion in the NRHP per the requirements of Criteria Consideration F: Commemorative Properties. The marker will not be touched by the proposed project.

North Bank Puyallup River Revetment

With the 1909 passage by the Washington State Legislature of an appropriation to help straighten the Puyallup River, significant efforts to build levees and widen, straighten, and deepen the Puyallup River between Tacoma and Puyallup began in earnest, including elimination of the meander directly downstream of the current project area. By 1914, the river was dredged and channeled and a concrete levee was constructed from the harbor to the City of Puyallup (City of Tacoma 1981). Undated photos show the 1925-built bridge atop massive concrete levees on both banks of the river (Dorpat and McCoy 1998:264). Those levees do not presently exist under the two SR 167 bridges. The levee on the south bank is still in place a short distance downstream of the APE and, although not visible, may still be in place upstream and downstream from the APE on the north bank. In 1950 the US Army Corps of Engineers rebuilt revetments and levees when the river's channel capacity was increased, and some of that work may have involved the structures under the bridges.

The current north bank revetment appears to be of more recent construction, with rocks probably larger than early trucks and construction equipment could have easily moved

into place. A 1971 "Plan" drawing for the new SR 167 bridge shows "concrete slope protection" on the river's north bank, indicating that the present rock revetment dates to the 1971 bridge construction or sometime thereafter when the earlier flood control structure was either removed or covered by a new structure. Thus the original revetment or levee in this location has lost integrity of materials, workmanship, and feeling (if not design), and is not NRHP eligible.

Lindsay House

Although the house retains much of its exterior integrity, it lacks architectural distinction and is not eligible for inclusion in the National Register of Historic Places. Installation of vinyl windows has compromised that integrity, most prominently on the structure's primary façade.

Murray House

This abandoned, vernacular house retains considerable integrity of design and materials on its exterior, most notably its cladding, wood windows, and wood rain gutters. Despite the house's retention of some historic appearance, however, its deteriorated condition and lack of architectural distinction render it ineligible for inclusion in the National Register of Historic Places.

Conclusions and Recommendations

This supplemental survey for the Meridian Street Bridge phase of the SR 167 Extension Project resulted in the inventory and/or reevaluation of five historic structures, one of which (the Meridian Street Bridge) is eligible for listing in the NRHP. WSDOT and FHWA will continue consultation with interested parties in order to seek ways to avoid, minimize, or mitigate adverse effects to the Meridian Street Bridge that could result from the project. If adverse effects to the Meridian Street Bridge cannot be avoided, an amendment to the existing Memorandum of Agreement (MOA) for the SR 167 Extension Project should be developed in consultation to stipulate mitigation measures.

The MOA should also stipulate additional Section 106 review of future phases of the SR 167 Extension Project in order to ensure that historic properties outside the Meridian Street Bridge project area have been adequately taken into account.

Notes and photographs for this survey will be kept on file at the WSDOT Environmental Services Office, Olympia, Washington. A copy of this report should be forwarded to the Washington State Department of Archaeology and Historic Preservation, and the interested and affected tribes.

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Appendix A – Historic Property Inventory Forms

Historic Inventory Report

Location

Field Site No. DAHP No.

Historic Name: Meridian Street Bridge

Common Name: Puyallup River Bridge 167/20E

Property Address: 0000 N Meridian St N, Puyallup, WA 98424

Comments:

Tax No./Parcel No.

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	21			Pierce	PUYALLUP

Coordinate Reference

Easting: 1194635

Northing: 686851

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge Date Recorded: 12/30/2011

Field Recorder: Craig Holstine

Owner's Name: Washington State Department of Transportation

Owner Address: 310 Maple Park Blvd.

City: Olympia State: WA Zip: 98504

Classification: Structure

Resource Status: Comments:
Survey/Inventory

Within a District? No

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:

Description

Historic Use: Transportation - Road-Related (vehicular)

Current Use: Transportation - Road-Related (vehicular)

Plan: Unknown

Stories: not applic

Structural System: Steel

Changes to Plan: Slight

Changes to Interior: Not Applicable

Changes to Original Cladding: Not Applicable

Changes to Windows: Not Applicable

Changes to Other: Not Applicable

Other (specify):

Style:	Cladding:	Roof Type:	Roof Material:
Other	None	None	None

Foundation:	Form/Type:
Concrete - Poured	Other

Narrative

Study Unit

Other

Transportation

Date of Construction:

1925 Built Date

1951 Remodel

Builder: Puget Sound Bridge & Dredging Co., Seattle

Engineer: M.M. Caldwell

Architect:

Property appears to meet criteria for the National Register of Historic Places: Yes

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

Statement of Significance: The Puyallup River/Meridian Street Bridge is currently the longest, simply supported, steel riveted Warren through truss span built prior to 1940 remaining on the Washington State highway system. The popularity of the Warren truss emerged in the late 1930s, and continued through the 1950s. Very few truss bridges were built on State-owned highways after 1960. Although a modest number of Warren trusses still remain on the system, the number has declined. Narrow bridges with restricted vertical clearance, such as through trusses, are routinely replaced by wider concrete bridges.

The Puyallup River/Meridian Street is also significant for its unusual, perhaps unique truss configuration. As a variation from the standard Warren truss' horizontal top chord, the bridge has a parabolic top chord allowing for a longer span length than possible with the standard top chord. The parabolic configuration also avoided the need for heavier, or additional, truss components to reach the entire span length. Its subdivided panels and the addition of longitudinal members at the mid-panel heights in five truss panels achieved both strength and economy of steel. Those highly unusual modifications to the original Warren truss appear strikingly similar to the so-called Turner truss, patented by Claude A.P. Turner in 1923. Turner wrote that "The type of truss is one originated by the writer to eliminate the multiplicity of nominal members" (Turner 1922:180). In his patent description, Turner wrote that one important element of his design were the longitudinal struts connected to diagonal web members "at a point substantially midlength thereof" and that "the framework thus formed by said struts is applied only to alternate panels. The arrangement . . . works out very economically of material in practice. By my invention a truss as provided that uses a minimum of material, it has great stiffness and it eliminates, or greatly reduces, secondary stresses" (Turner 1923). In her Historic American Engineering report for the Liberty Memorial Bridge in North Dakota, Nancy Ross writes: "The primary modification [to the Warren truss] is the reinforcing of alternate panels with a framework of steel struts. Intended to increase the overall rigidity of the truss web, the modification gives the trusses a distinctive appearance that differs considerably from the conventional Warren profile. In spite of the advantages of this novel variant of the Warren truss, the Liberty Memorial Bridge is the only example of the application of this design" (Ross 1991:11).

Ross' conclusion seems to be borne out by the Puyallup River/Meridian Street Bridge in that, although very similar to the design used for the Liberty Memorial Bridge, including longitudinal bracing in alternate panels, it is not a Turner truss. The primary difference between the two designs is that the only vertical struts in the Puyallup/Meridian Bridge are those adjacent to each portal, whereas vertical members connect the longitudinal substruts and diagonals to the bottom chords in every panel on the Liberty Memorial Bridge. In his comparison of the two bridges, retired WSDOT bridge engineer Robert Krier noted: "the absence of vertical members [on the Puyallup/Meridian Bridge] requires the diagonals of the Meridian Truss to act directly, in both compression and tension," whereas in the Liberty Memorial Bridge, the numerous verticals in the truss panels transfer some of the vertical loads indirectly into the diagonals. In addition the panel lengths are significantly different on the two bridges: 26.5 feet on the Puyallup/Meridian Bridge; 17 feet on the Liberty Memorial Bridge. Although not visibly apparent, the resulting structural requirements for the relative floor systems of the two bridges are considerably different. In order to have a more complete understanding of the load distribution of the truss members and thereby perform a structural comparison between the two bridges, it would be necessary to have the details of the sequence of the steel erection, roadway deck construction and release of falsework (Krier 2010).

When comparing the Puyallup River/Meridian Street Bridge with the Liberty Memorial Bridge in North Dakota, structures of similar design, it seems unavoidable to ask: In designing the Puyallup Bridge in 1924, did M.M. Caldwell use or borrow details from Claude A.P. Turner's truss design, patented in 1923? Given that Turner published an article about his design of the Liberty Memorial Bridge in the Engineering News-Record, the most popular nation-wide trade journal of the day, in February 1922, Caldwell probably knew of the design. The article included small drawings of the bridge's elevation and floor system, and a somewhat more detailed drawing of "SUBDIVIDED TRIANGULAR TRUSSES." Those, along with simple drawings and explanations included in the patent, published in January 1923, would have provided ample inspiration for an engineer to adapt the Turner truss details to design any long-span bridge. Turner in fact labeled his patent "LONG-SPAN BRIDGE," perhaps in case the design's applicability was unclear (Turner 1922 and 1923). However, it is questionable whether Caldwell actually would have considered it necessary to incorporate any of Turner's "Long-Span" structural features into the Puyallup Bridge, since its span of 371 feet is 105 feet shorter (22%, a significant structural difference) than Turner's bridge. Further, the subdivided Warren truss (developed in the late 1800s) and the Pennsylvania truss (developed by the Pennsylvania Railroad in 1875 with the polygonal top chord for use in long-span railroad bridges) provided Caldwell with sufficient structural features for utilization in his bridge if he so desired. As no evidence is known to exist that Caldwell either legally used the patent, or perhaps simply borrowed liberally from it without acknowledging the source, further research may reveal Caldwell's awareness of Turner's design. Regardless of his possible knowledge of Turner's truss, Caldwell's design is nevertheless another variation of a subdivided Warren through truss with its own characteristics perhaps unique to this structure.

Although it is not actually a Turner truss, the Puyallup River/Meridian Street Bridge is significant for its design, which is the only one of its kind in Washington, and may very well be unique in the US if not the world, although additional research would be needed to confirm that conclusion. Despite modest alterations over the years, and additions made for safety and structural improvement, the bridge retains integrity of design, materials and workmanship, and is thus eligible for inclusion in the NRHP under Criterion C.

Historical Background

M.M. Caldwell, as he signed his name to drawings and documents, and as his name appears on bronze plaques on the structure, designed the Puyallup River/Meridian Street Bridge. Maury M. Caldwell first appears in Seattle city directories in 1917 as simply "engineer." The next year he is identified as a clerk with the C.G. Huber Company, a Seattle firm then constructing a steel Petit truss bridge on the Cowlitz River in southwest Washington. By 1920 Caldwell had become "Chief Engineer" with the Union Bridge Company (Polks' 1916-1920). In that capacity he oversaw construction in 1921 of the James O'Farrell Bridge over the Carbon River in Pierce County, as well as construction of one mile of highway (presently SR 162) leading to the bridge (Clarke 1993:5; Hall 1994:303; Pierce County Public Works, Fairfax/O'Farrell/Carbon River Bridge file). By 1923 Caldwell was representing the Strauss Bascule Bridge Company of Chicago in promoting a movable bridge in Aberdeen, Washington (Pacific Builder and Engineer 1923:13). The company built the Wishkah River Bridge there the next year under Caldwell's direction (Lawrence 1993:3). By then he had become (in the city directory) a "consulting engineer," apparently no longer affiliated with the Union Bridge Company. Caldwell retained that status until 1942, when his name disappeared from the Seattle City directories (Polks' 1921-1942).

In November 1924 Pierce County applied for federal aid to build what was called a "Steel Highway Bridge Crossing Puyallup River Between Secs. 21 & 22, T20N, R4E." On the drawing submitted with the application, the bridge appears in elevation view to be the design used to build the bridge the next year. M.M. Caldwell's name does not appear on the drawing, however, the only signature being that of C.H. Votaw, the County Engineer. Clifford Votaw eventually supervised construction of the Puyallup River/Meridian Street Bridge, as well as the Hylebos Bridge in Tacoma, among many other Pierce County road and bridge projects (Bonney 1927:491). Undated drawings in the County's Public Works Office do, however, bear the designer's name "M.M. CALDWELL, CONSULTING ENGINEER."

In early February 1925 Pierce County awarded a construction contract for $77,200 to the Puget Sound Bridge & Dredging Company of Seattle. Nine other firms had submitted bids, ranging in cost estimates from $78,989 to $93,905 (Pierce County Public Works, Meridian Street Bridge file). In announcing the award, the Puyallup Valley Tribune noted that "The new road [Meridian Street] will considerably shorten, by the northern route, the distance to Tacoma, and will also bring the big [Puyallup Indian] Reservation district a mile closer to Puyallup" (2/7/1925:1; all following citations in this paragraph are from that newspaper, except where noted). Piling and falsework had been erected across the river by mid May when the same newspaper reported that construction was ahead of schedule on the bridge, but that Meridian Street "is not in condition, nor have any definite steps been taken toward improvement or paving" (5/16/1925:1 & 10). Concrete piers were "virtually" complete when 380 tons of steel from the Virginia Bridge and Iron Company in Roanoke, Virginia, arrived on site the next month (6/13/1925:1; Pierce County Public Works, Meridian Street Bridge file). On July 4th C.J. Flem, superintendent of construction for the Company, reported that riveters had started work on the steel in place across the river, and that the 5 ½ inch-thick concrete deck was "virtually completed" (7/4/1925:1). The bridge was finished in time for the opening of the Western Washington State Fair on 21 September 1925, but Meridian Street remained unpaved, due to refusal by the City Council to fund improvements (9/19/1925:1). Finally County Commissioner Henry Ball had the street "put in shape" for Fair traffic, despite the Council's recalcitrance (9/26/1925:1). In October, work commenced near the bridge on the pyramidal concrete and stone marker with bronze plaque commemorating the first road or Indian trail across the river at the site, the first school in the Puyallup Valley housed in the Indian War blockhouse that stood "Near the north approach," and the first telegraph line to reach the community (7/26/1925:1; 10/17/1925:1).

Description of Physical Appearance:

The Puyallup River/Meridian Street Bridge's main span is a 371-foot long steel riveted, subdivided Warren through truss. Unlike the standard Warren truss, this bridge has parabolic top chords and alternating diagonal truss members, longitudinal braces between diagonals in alternating panels, and vertical members adjacent to the portals. In 1991 the portal sway braces and interior panel sway bracing was modified to increase vertical clearance for over-sized traffic from 14 feet 7 inches to 18 feet 7 inches. Although the modifications were sensitive to the original truss configuration, retaining as much of the old bracing as possible, the truss appearance has changed somewhat when viewed from the roadway. Among the changes to the deck are the 21 inch-high metal thrie beams attached to the inside (traffic) side of the trusses, reducing the roadway width by 9 inches to 21 feet. The south approach to the truss consists of a 21-foot long precast, prestressed girder span and two 19-foot long timber trestle spans (which replaced earlier timber spans), all added in 1951. The north approach consists of two 19-foot long timber trestle spans, also dating to 1951, bringing the total length of the structure to 468 feet. The truss piers are founded on timber piles, while the approach piers rest on concrete spread footings. A five-foot wide timber sidewalk is attached to the east side of the bridge. A decorative, cross-hatched lattice steel rail is attached to the outer edge of the sidewalk along the full length of the truss span, providing both improved safety for pedestrians and a somewhat aesthetic appearance to the east elevation. The bridge originally carried a lane of traffic in each direction until 1971 when a concrete bridge was built immediately adjacent to the west truss to carry southbound traffic. The modern concrete bridge rises several feet above the roadway of the historic truss bridge, detracting considerably from the aesthetics of the older bridge.

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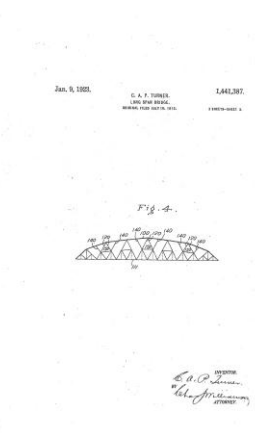
Photos

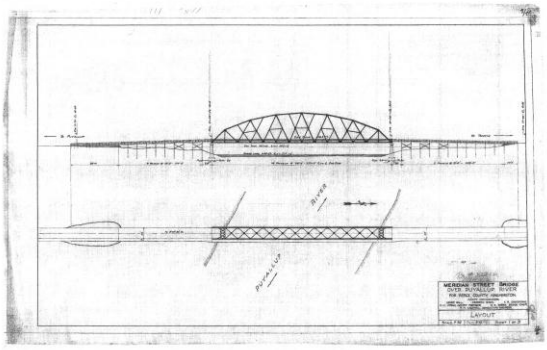
2011

Original portal braces prior to removal and replacement.
1947

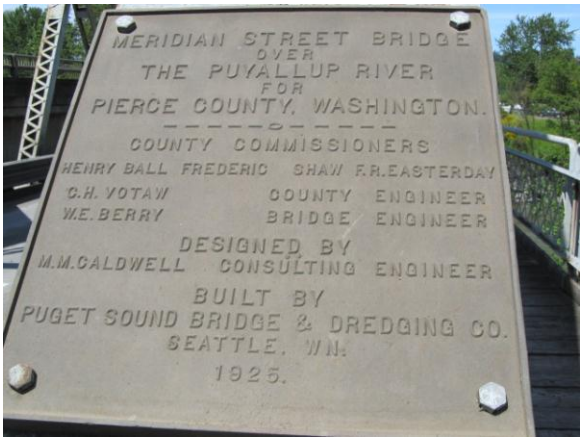
Deck view to north.
2011



C.A.P. Turner's 1923 patent for a "long-span" truss bridge.
1923



Meridian St. Bridge elevation drawing by M.M. Caldwell
2011



Plaque on bridge showing M.M. Caldwell, designer, and Puget Sound Bridge & Dredging Co., Seattle, builder.
2011

Replaced portal brace.
2011

Newer bridge (#167/20W, foreground) and older (1925) bridge to northeast.
2011

Sidewalk on east side.
2011

Subdeck to north.
2011

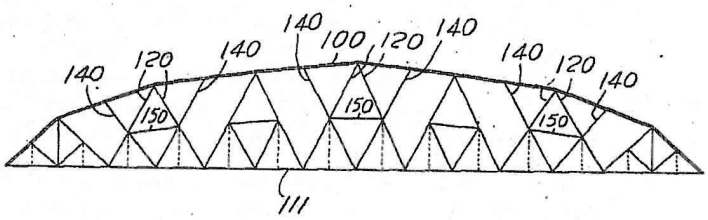
Jan. 9, 1923. 1,441,387.

C. A. P. TURNER.

LONG SPAN BRIDGE.

ORIGINAL FILED JULY 10, 1913. 3 SHEETS—SHEET 3.

Fig. 4.

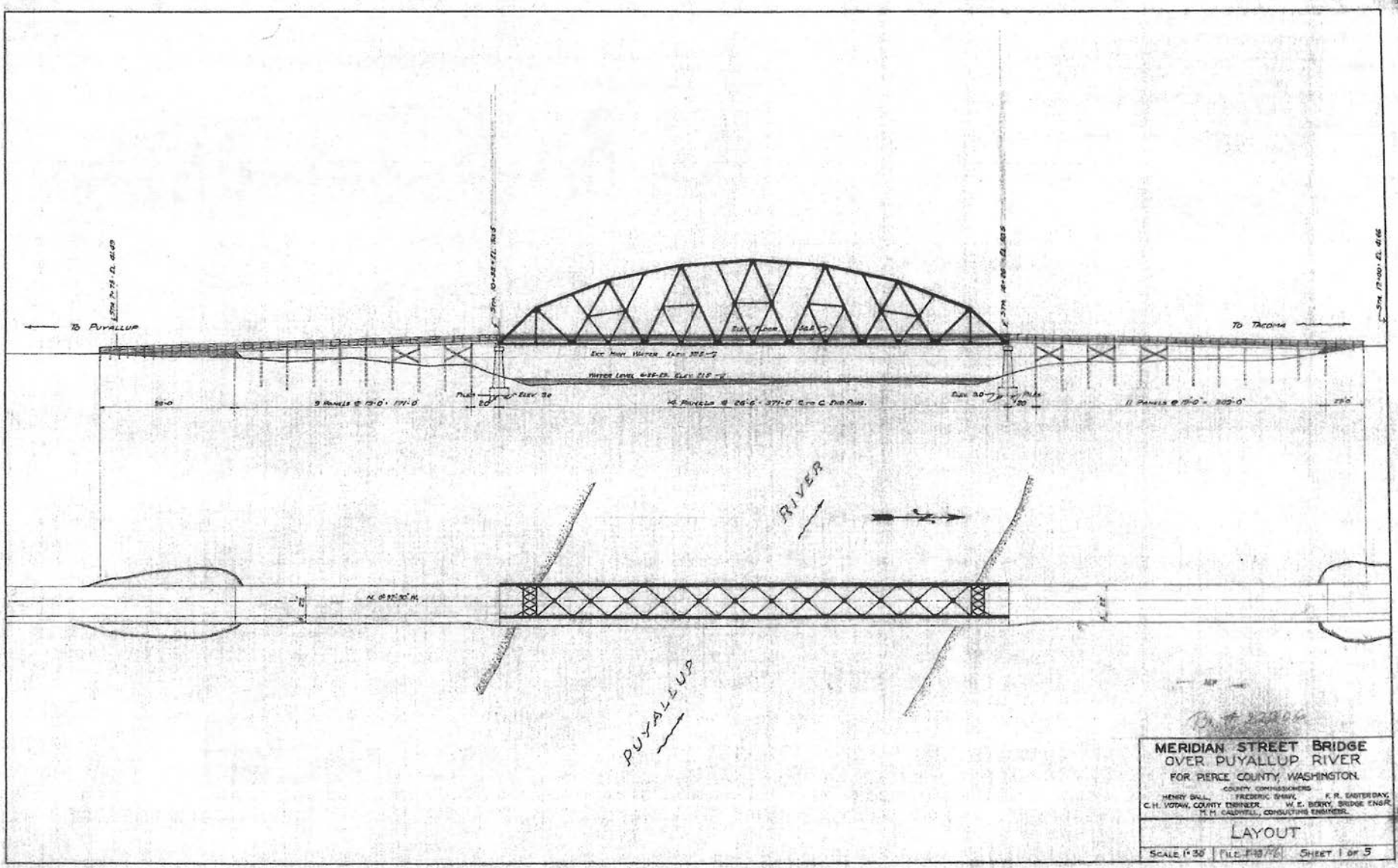


INVENTOR.

C. A. P. Turner.

BY Edward J. Williamson

ATTORNEY.



MERIDIAN STREET BRIDGE
OVER PUYALLUP RIVER
FOR PIERCE COUNTY, WASHINGTON.

COUNTY COMMISSIONERS
HENRY BALL, FREDERIC SHAW, F. R. EASTERDAY.
C. H. VOTAW, COUNTY ENGINEER. W. E. BERRY, BRIDGE ENGR.
H. M. CALDWELL, CONSULTING ENGINEER.

LAYOUT

SCALE 1"=30' | FILE F-18/16 | SHEET 1 OF 5

Historic Inventory Report

Location

Field Site No.

DAHP No.

Historic Name: Fort Maloney Historical Marker

Common Name: Ft. Steilacoom-Ft. Bellingham Military Marker

Property Address: 0000 N Levee Rd N, Puyallup, WA

Comments:

Tax No./Parcel No.

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	21	SE	SE	Pierce	PUYALLUP

Coordinate Reference

Easting: 1194448

Northing: 687108

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge 167/20E Project

Date Recorded: 06/08/2012

Field Recorder: Craig Holstine

Owner's Name: Pierce County

Owner Address: 0000

City: Tacoma

State: WA

Zip: 98409

Classification: Structure

Resource Status: Survey/Inventory

Comments:

Within a District? No

Contributing? Yes

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:

Description

Historic Use: Recreation and Culture - Monument/Marker

Current Use: Recreation and Culture - Monument/Marker

Plan: Unknown

Stories: 0

Structural System: Mixed

Changes to Plan: Not Applicable

Changes to Interior: Not Applicable

Changes to Original Cladding: Not Applicable

Changes to Windows: Not Applicable

Changes to Other: Extensive

Other (specify): location is not original (1925)

Style:	Cladding:	Roof Type:	Roof Material:
Other	None	None	None

Foundation:	Form/Type:
Concrete - Poured	None

Narrative

Study Unit

Other

Politics/Government/Law

Date of Construction: 1925 Built Date

Builder: Washington State Historical Society

Engineer:

Architect: Washington State Historical Society

Property appears to meet criteria for the National Register of Historic Places: No

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

Statement of Significance:	Construction of this monument began "at the north end of the Meridian Street Bridge" on 16 October 1925. It was completed by 30 October when dedicated "under the auspices of the Washington State Historical Society" (Bonney 1926:36). The marker has been recorded previously: by Gary Fuller Reese as the "Fort Steilacoom-Fort Bellingham Military Marker" in 1974; by Caroline Gallacci as the "Fort Malone [sic] Historical Marker (PC-96-15)" in 1982; and by Charles T. Luttrell (per Gallacci's title) in 2000, who recommended the structure not be determined NRHP eligible because "its design, age, tradition or symbolic value has not invested it with its own significance." On 14 April 2003 the WSDOT determined the marker not NRHP eligible, and the Washington SHPO agreed 10 February 2004. Since the monument does not appear to possess aesthetic values of the period of its creation; nor has it defined the historic identity of the area; nor has it come to symbolize the values, ideas, or contributions valued by the generation that erected it, the marker is not eligible for inclusion in the NRHP meeting the requirements of Criteria Consideration F: Commemorative Properties. In addition, the monument has been moved from its original construction location. According to a 1971 WSDOT plan map for the new bridge on SR 167, the marker was shown as "Relocated," either previous to, or a part of, the planned bridge construction. During the Indian War of 1855-56 in Western Washington, soldiers with the 4th Infantry under US Army Capt. Maurice Maloney built a blockhouse in the vicinity of the present historical marker to protect the Carson Ferry. Standing on the north bank of the Puyallup River, the blockhouse apparently consisted of a two-story log building with the upper story overhanging an unusually low main floor. It was named for Capt. Maloney, who was born in Ireland ca. 1812. He had begun his Army career when he enlisted as a private in 1836; was commissioned a second lieutenant in 1846, and fought in the Seminole War and at the Battle of Chapultepec in the Mexican War. For a brief time during the Indian War of 1855-56, he was the commanding officer of Fort Steilacoom. While in the Pacific Northwest, Maloney commanded Co. A of the 4th Infantry at Forts Steilacoom and Chehalis, and at Camp Montgomery. During the Civil War, he was promoted to the rank of major in 1862 and commanded siege guns at Vicksburg in 1863. Known as Battery Maloney, the position is today known as Maloney's Circle in Vicksburg National Military Park. In 1865 Maloney was promoted to colonel and commanded the 13th Wisconsin Voluneers. Maloney retired in 1870 and died in Green Bay, Wisconsin, in January 1872.
Description of Physical Appearance:	Standing ca. 7 meters south of the N. Levee Road fog line and ca. 45 meters west of the stop sign at the intersection of N. Levee Road and the SR 167 southbound lanes is a mortared cobblestone pyramid on a ca. 7 ft square concrete base. Four granite slabs have been attached to the upper face of each of the pyramid's sides. The stone plaques read: "ONE NIGHT IN OCTOBER 1855, ABRAHAM SALATAT, AN INDIAN, RODE THROUGH THE PUYALLUP VALLEY WARNING WHITE SETTLERS THAT A WAR PARTY OF INDIANS WAS COMING. IN 1855 UNDER TERRITORIAL CHARTER JOHN CARSON BUILT A TOLL BRIDGE HERE. IT WAS CARRIED AWAY BY FLOODS DURING THE WINTER OF 1862-63. IN FEBRUARY 1856 U.S. SOLDIERS ERECTED FORT MALONEY HERE TO PROTECT THE JOHN CARSON FERRY. THE SUMMER OF 1861 MRS. E. L. CARSON TAUGHT SCHOOL AT FORT MALONEY. MILITARY ROAD FROM STEILACOOM TO BELLINGHAM CROSSED PUYALLUP RIVER HERE 1864. FIRST TELEGRAPH LINE THROUGH STATE WAS STRUNG OVER THIS ROAD. WASHINGTON STATE HISTORICAL SOCIETY, 1925."

Major Bibliographic References:

Bonney, W.P. "Monument Unveiled in Puyallup." Washington Historical Quarterly, Vol. 17, No. 1. January 1926, pp. 36-38.

Fort Wiki Historic Forts of US and Canada, Fort Maloney Website: http://fortwiki.com/Fort_Maloney.

Forts of Washington Website: http://themossback.tripod.com/forts/forts2.htm.

Gallacci, Caroline. "Fort Malone Historical Marker (PC-96-15)." Historic Property Inventory form, on file, Department of Archaeology and Historic Preservation, February 1982.

Historic Fort Steilacoom Website: http://www.historicfortsteilacoom.com/history.php#arrival.

Luttrell, Charles T. Fort Malone Historical Marker (PC-96-15). Historic Property Inventory Report, OAHP No. 27-1705. On file, Department of Archaeology and Historic Preservation, Olympia, 12 July 2000.

Puyallup Historical Marker, Washington Historical Markers on Waymarking.com Website: http://www.waymarking.com/waymarks/WMA1R.

Reese, Gary Fuller. "Fort Steilacoom-Fort Bellingham Military Marker." Historic Property Inventory form , on file, Department of Archaeology and Historic Preservation, August 1974.

Whitney, Thomas. Fort Malone Historical Marker NRHP Determination of Eligibility. 14 April 2003.

Washington State Department of Transportation. Plan map for new bridge on SR 167. Sheet 49 of 202 sheets. Bridge Engineering Information System (BEISt), on line, Olympia. 11 February 1971.

"Work Commenced on Concrete Marker." Puyallup Valley Tribune, 17 October 1925, p. 1.

Photos

Marker to West
2012

Monument to SE, with SR 167 bridges over Puyallup River behind.
2012

Marker to West
2012

Plaque on east side of marker
2012

Historic Inventory Report

Location

Field Site No. DAHP No.

Historic Name: North Bank Puyallup River Revetment

Common Name:

Property Address: 0000 Meridian St N, Puyallup, WA 98424

Comments:

Tax No./Parcel No.

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	22			Pierce	PUYALLUP

Coordinate Reference

Easting: 1194611

Northing: 686971

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge 167/20E Project Date Recorded: 06/08/2012

Field Recorder: Craig Holstine

Owner's Name: Pierce County Public Works

Owner Address:

City: Tacoma State: WA Zip:

Classification: Structure

Resource Status: Comments:
Survey/Inventory

Within a District? Not Identified

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:

Description

Historic Use: Government - Public Works
Current Use: Government - Public Works
Plan: Other
Stories: 0
Structural System: Mixed
Changes to Plan: Intact
Changes to Interior: Not Applicable
Changes to Original Cladding: Not Applicable
Changes to Windows: Not Applicable
Changes to Other:
Other (specify):

Style:	Cladding:	Roof Type:	Roof Material:
None	Stone - Cobble Stone	None	None

Foundation:	Form/Type:
Concrete - Poured	Utilitarian

Narrative

Study Unit
Other
Politics/Government/Law

Date of Construction:
1971 Built Date
Builder:
Engineer:
Architect:

Property appears to meet criteria for the National Register of Historic Places: No
Property is located in a potential historic district (National and/or local): No
Property potentially contributes to a historic district (National and/or local): No

Statement of Significance:

Typical of Western Washington rivers, the Puyallup has over-spilled its banks and, in historic times, flood control structures with great regularity. Subsequent to massive flooding in December 1906, Pierce and King counties agreed to form taxing districts to support flood control efforts. Construction of dams, dikes, levees and revetments began in 1914 under the auspices of the Inter-County River Improvement organization (Roberts 1920). Flood waters remained undaunted, however, topping and undermining new facilities; in 1917 and 1933 floods destroyed most existing structures, which were subsequently rebuilt over the years. Even construction of Mud Mountain Dam in the 1940s failed to prevent periodic high-water damage (Dorpat and McCoy 1998:259-61). Today the counties continue to replace rock on existing revetments. In 2009 the City of Puyallup placed riprap atop the north bank revetment in an unsuccessful attempt to keep flood waters and debris off the roadway leading to North Levee Road (Dixon).

The rock revetment on the north bank of the Puyallup River under the SR 167 bridges is the most recent iteration of earlier flood barriers. By 1915 the oxbow meanders immediately upstream and downstream of the older bridge had been eliminated, forcing the river into its present channel now crossed by the highway bridges (Kroll 1915). Presumably a revetment was built at that time to stabilize the north bank. A ca. 1924 design drawing of the 1925-built bridge does not show any flood control structures under the approaches or around the piers (Caldwell drawing, BEISt). Two later, although undated, photos show the 1925-built bridge atop massive concrete levees on both banks of the river (Dorpat and McCoy 1998:264; WSDOT Bridge and Structures Office). Those levees do not presently exist under the two SR 167 bridges. The levee on the south bank is still in place a short distance downstream from (west of) the newer (1971-built) bridge, and although not visible, may still be in place upstream and downstream from the bridges on the north bank. In 1950 the US Army Corps of Engineers rebuilt revetments and levees when the river's channel capacity was increased, and some of that work may have involved the structures under the bridges. A reconfiguration of flood control structures could have been at least part of the reason the approaches to the 1925-built bridge were rebuilt in 1951 (CARDEX file, WSDOT Bridge and Structures Office; Stevens 1951).

The north-bank revetment appears to be of recent construction, with rocks probably larger than early trucks and construction equipment could easily have moved into place. A Pierce County Public Works official believes it has been rebuilt in the recent past (Dixon). A 1971 "Plan" drawing for the new bridge shows "Top of Exist. Concrete Slope Protection" on the river's north bank where the present roadway accessing North Levee Road passes under the bridges (WSDOT 1971). The present revetment apparently dates to the 1971 bridge construction or sometime thereafter when the earlier flood control structure was either removed or covered by a new structure. Thus the original revetment or levee in this location has lost integrity of materials, workmanship, and feeling (if not design), and is not NRHP eligible.

Description of Physical Appearance:

A revetment consisting of boulders up to two feet in diameter stacked at an angle greater than 45 degrees armors the north bank of the Puyallup River under the SR 167 bridges. (No similar revetment exists on the south bank of the river under the bridges, although revetments and levees exist beyond the SR 167 right-of-way both upstream and downstream.) The revetment rises approximately 8 feet above an inclined base of similar sized boulders that extends into the river. Unconsolidated boulders, rocks and gravels have been dumped atop the revetment to add protection to the roadway under the bridges connecting North Levee Road with northbound traffic off the 1925-built bridge. Extending beyond the bridges in both directions for undetermined distances, the revetment has been built up around the piers of both the 1925 -built and 1971-built bridges, suggesting its installation being contemporaneous with, or after, the latter bridge's construction date.

Major Bibliographic References:

BEISt (Bridge Engineering Information System). WSDOT, on line, Olympia.

Caldwell, M.M. Meridian Street Bridge over Puyallup River "Layout" drawing. BEISt, ca. 1924. BEISt, WSDOT, on line, Olympia.

Dixon, Dennis. Surface Water Management Office, Pierce County Public Works Department, Tacoma. Personal communication, 2012.

Kroll's Atlas of Pierce County. 1915. Washington State University Libraries Digital Collections, Early Washington Maps. On line: http://content.wsulibs.wsu.edu/cdm/singleitem/collection/maps/id/887/rec/27.

Roberts, W.J. Report of W.J. Roberts, Chief Engineer Inter-County River Improvement, on White-Stuck and Puyallup River in King and Pierce County, Washington, Period January 1914 to December 31, 1919. Published by King and Pierce Counties. Copy in Washington State Library, January 1920.

Stevens, George. Secondary State Highway No. 5-D, Puyallup River Bridge No. 5D-1 "Layout" drawing. BEISt, 6 March 1951.

WSDOT Bridge and Structures Office. CARDEX, correspondence and photograph files. Tumwater.

Washington State Department of Transportation. Plan map for new bridge on SR 167. Sheet 49 of 202 sheets. Bridge Engineering Information System (BEISt), on line, Olympia. 11 February 1971.

Photos

North bank revetment under SR 167 bridges
2012

N. bank revetment under SR 167 bridges
2012

Revetment wall on N. bank Puyallup River, view to east
2012

Riprap atop north bank Puyallup River Bridges revetment
2012

Historic Inventory Report

Location

Field Site No.

DAHP No.

Historic Name: Paul A. Lindsay House

Common Name:

Property Address: 1029 Meridian St N, Puyallup, WA 98371

Comments:

Tax No./Parcel No. 0420223045

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	22			Pierce	PUYALLUP

Coordinate Reference

Easting: 1194613

Northing: 685830

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge 167/20E Project

Date Recorded: 06/08/2012

Field Recorder: Craig Holstine

Owner's Name: Northeast Corner Properties LLC

Owner Address: POB 538

City: Puyallup **State:** WA **Zip:** 98371

Classification: Building

Resource Status: Survey/Inventory

Comments:

Within a District? No

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:

Historic Inventory Report

Description

Historic Use: Domestic - Single Family House

Current Use: Domestic - Single Family House

Plan: Rectangle

Stories: 1

Structural System: Braced Frame

Changes to Plan: Intact

Changes to Interior: Extensive

Changes to Original Cladding: Intact

Changes to Windows: Intact

Changes to Other:

Other (specify):

Style:	Cladding:	Roof Type:	Roof Material:
Vernacular	Shingle - Coursed	Gable - Side Gable	Asphalt / Composition

Foundation:	Form/Type:
Concrete - Poured	Single Family - Side Gable

Narrative

Study Unit

Architecture/Landscape Architecture

Other

Date of Construction: 1940 Built Date

Builder:

Engineer:

Architect:

Property appears to meet criteria for the National Register of Historic Places: No

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

Statement of Significance: Although the house retains much of its exterior integrity, it lacks architectural distinction and is not eligible for inclusion in the National Register of Historic Places. Installation of vinyl windows has compromised that integrity, most prominently on the structure's primary façade. Pierce County Assessor-Treasurer's information shows the house's construction date as 1955. However, given the house's style and construction, it seems likely it was built earlier. The City Directory indicates that Paul A. Lindsay, a janitor at Maplewood School, and his wife Adolphine lived at this address in 1947. By 1950 Lindsay had become a teacher at the school. Despite his probable salary increase, it seems unlikely that the Lindsays would have built a new house here five years later. They continued living in the house at least through 1961.

Description of Physical Appearance:

This one-story vernacular house is clad in wood shingle siding. Its side-facing gable roof is covered in composition shingles. A short brick chimney protrudes from the roof ridge, and a full-height brick chimney is on the south wall. The walk-in basement is accessible via a pedestrian door centered on the rear (east) concrete wall. Fixed windows in that wall provide light to the basement's interior. A concrete driveway off Meridian descends to a sunken gravel parking area behind the basement.

A pedestrian door opens onto a modern wood deck that extends off the rear (northeast corner) of the house. Abutting four-light windows join on the northeast corner of the house, and a matching window is on the north wall. Three-light windows are on the south and east walls. Modern vinyl slider windows are in the gables on the north and south walls. Larger vinyl slider windows flank the front entry. A small gable awning covers the two concrete steps leading to the modern front door, which is centered in the west wall facing onto Meridian Street. Corrugated plexiglass is attached to the posts supporting the front entry awning.

Major Bibliographic References:

Pierce County Assessor-Treasurer. Building Characteristics for Parcel 0420223045. On line at http://epip.co.pierce.wa.us.

R.L. Polk & Company. Polk's Puyallup City Directory. Seattle, 1947, 1950, and 1961.

Photos

West (front) & south elevations
2012

West & north elevations
2012

East (east) and south elevations
2012

West (front) elevation
2012

Historic Inventory Report

Location

Field Site No. **DAHP No.**

Historic Name: Mead M. Murray House

Common Name:

Property Address: 1103 Meridian St N, Puyallup, WA 98371

Comments:

Tax No./Parcel No. 0420223025

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	22			Pierce	PUYALLUP

Coordinate Reference

Easting: 1194652

Northing: 685929

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge 167/20E Project **Date Recorded:** 06/08/2012

Field Recorder: Craig Holstine

Owner's Name: Northeast Corner Properties LLC

Owner Address: POB 538

City: Puyallup **State:** WA **Zip:** 98371

Classification: Building

Resource Status: **Comments:**
Survey/Inventory

Within a District? No

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:

Historic Inventory Report

Description

Historic Use: Domestic - Single Family House
Current Use: Vacant/Not in Use
Plan: Rectangle
Stories: 2
Structural System: Braced Frame
Changes to Plan: Intact
Changes to Interior: Unknown
Changes to Original Cladding: Intact
Changes to Windows: Intact
Changes to Other:
Other (specify):

Style:	Cladding:	Roof Type:	Roof Material:
Vernacular	Wood - Drop Siding	Gable - Side Gable	Asphalt / Composition

Foundation:	Form/Type:
Concrete - Poured	Single Family

Narrative

Study Unit
Architecture/Landscape Architecture

Other

Date of Construction: 1920 Built Date

Builder:
Engineer:
Architect:

Property appears to meet criteria for the National Register of Historic Places: No
Property is located in a potential historic district (National and/or local): No
Property potentially contributes to a historic district (National and/or local): No

Statement of Significance: This abandoned, vernacular house retains considerable integrity of design and materials on its exterior, most notably its cladding, wood windows, and wood rain gutters. Despite the house's retention of some historic appearance, however, its deteriorated condition and lack of architectural distinction render it ineligible for inclusion in the National Register of Historic Places. In 1936 Mead M. and Wilma Murray lived in this house, which at that time was 103 N. Meridian. (Three years later it was 1003 N. Meridian; by 1947 the address had become 1103 N. Meridian.) The Murrays continued to live there at least through 1958. By 1961 Glen M. and Jean B. Freeman lived in the house. Pierce County records say the house was built in 1900. That date appears to be too early, given the style and materials used in the house's construction (especially the drop siding), and the probable age of N. Meridian Street. The roadway may not have existed in its present alignment until shortly before the Puyallup River Bridge was built in 1925. At the time of the bridge's construction, N. Meridian was an unimproved, unpaved roadway. It took action by a county commissioner and the approaching opening of the Western Washington Fair of 1925 to finally improve the street.

Description of Physical Appearance:

This vernacular two-story house facing N. Meridian Street is largely screened from view by maple, oak, birch and other large trees and shrubs that have overgrown the property. A side-facing gable roof with composition shingles covers the house. Gabled dormers protrude from the west-facing (front) roof. The second level is enlarged off the east-facing roof by what amounts to a large shed-roof wall dormer that extends nearly the entire length of the elevation. What appears to be original wide, horizontal wood siding covers all the house's walls. Most windows are double-hung sash, with large plate-glass windows in the west (front) and north walls. Fixed three-light windows are in the basement's concrete window wells. Brick steps access the brick-edged front porch in front of the main entry, which is recessed behind wood corner pilasters, a wide wood frieze, and a missing capital or awning. North of the front entry, the northwest corner of the house is a bumped-out bay with cornice returns shaped to function as rain gutters. Elsewhere on the house, as well as on the garage to the rear of the house, the rain gutters are wooden, although sections are extremely deteriorated or altogether missing. Under a shed-roofed awning supported by knee braces, the back door is centered on the house's rear (east) wall. Accessed by concrete steps and a small concrete porch, the door has been boarded over with plywood. South of the back entry is a recessed concrete porch. Squared wood posts with decorative capitals support the overhanging second story that covers the porch. Ten-light French doors open onto the porch from what was presumably the dining room. A corbeled and battered full-height chimney is on the house's south wall. Behind the house is a frame, single-car garage accessed by a concrete driveway off N. Meridian along the north side of the house. The garage's wide, horizontal wood siding matches that of the house, probably indicating contemporary construction. A plastic tarpaulin covers the wood-shingled gable roof. The vehicle door is missing, but a wood pedestrian door is in place on the garage's west wall, as is a 6-light fixed window. The concrete floor on the interior is intact, although the building itself is leaning to the northeast, thanks to an elm tree leaning on the garage's roof at its southwest corner.

Major Bibliographic References:

E.T. Krefting. The Puyallup Valley Directory. Puyallup, 1936 and 1939.

Pierce County Assessor-Treasurer. Building Characteristics for Parcel 0420223025. On line at http://epip.co.pierce.wa.us.

Puyallup Valley Tribune. "New Bridge to Open for Fair," 2/15; "Bridge Finished; Street Unpaved," 9/19; "Ball Continues To Aid in Improving Meridian," 9/26. 1925.

R.L. Polk & Company. Polk's Puyallup City Directory. Seattle, 1947, 1950, and 1961.

Photos

West & north elevations
2012

South elevation
2012

East and north elevations
2012

East (rear) elevation
2012

2012

Garage and rear of house
2012

Wood rain gutter on garage
2012

Wood rain gutter on house rear
2012

Washington State Department of Transportation

Memorandum

February 1, 2012

TO: Brenden Clarke
47440

THRU: Michael Villnave / Rob Peterson

FROM: Jim Norman
(360) 357-2633

SUBJECT: SR 167 – Puyallup to SR 509
Environmental Impact Statement

The sections of the above referenced subject relating to the traffic analysis have been reviewed. The traffic analysis supporting documentation is still valid as stated in the document.

If you need additional information or have any questions please call.

Washington State Department of Transportation

Memorandum

DATE 5/31/2012

TO: Brendan Clarke / Olympic Region Project Engineer

FROM: John Donahue, P.E. / Olympic Region Planning Office

SUBJECT: Traffic forecasting update for the SR 167 Puyallup River Bridge

Introduction

At your request, our office performed an analysis the traffic count forecast documented in the reports supporting the SR 167 Extension environmental impact statement and ROD. The purpose of the review was to determine a valid approach to traffic forecasting for the Puyallup River bridge location in 2035. In this review, the 2005 baseline traffic counts and 2030 forecast reported in the 2008 Traffic Analysis Report by Perteet, Inc for the SR 167 build condition are compared to more recent model and count information, in order to verify whether growth rates and baseline traffic assumptions represented in the previous work may have changed at the Puyallup River Bridge location since that report was published. The results show that it would be reasonable to use the previous forecasts for the 2030 build condition at the north leg of the River Rd/Meridian intersection location as the 2035 traffic forecast.

Method

The PSRC model version 1.0bb (May 2008) was used in this comparative analysis. The Pierce County TPU model (January 2008) was also checked to ensure the more conservative result was used. Intersection counts from 2011 provided to WSDOT by the City of Puyallup in January, 2012 were used as forecasting baseline. Model forecast period was assumed to be 2006 – 2030. Forecast volume calculations were post-processed using an average between ratio and difference methods. Model output at two nearby bridge crossings was also checked to verify whether the model indicates any shift in traffic balance across the river due to changes in demand characteristics or overcapacity conditions in the network. The results of this comparison showed no substantial percentage shift in traffic among these three crossings, so traffic forecasts were performed at the link level, and not adjusted to account for any potential shifts among these nearby river crossings.

Results

The 2008 report includes baseline traffic counts forecasts at the intersection of River Rd and and Meridian Ave, immediately south of the Puyallup River bridge. The report provides PM peak hour 2005 counts and 2030 forecasts for the SR 167 Extension build condition at the northerly approach to, and departure from, this intersection:

Year	SB	NB
2005	1655	1380
2030	2090	1970
Annual growth rate	0.94%	1.43%

2030 forecast taken from the SR 167 Extension Traffic Analysis Report (Perteet, Inc, 2008)

Our office researched PM peak hour counts taken at this same location in 2011, and developed a 2030 forecast at this same location. Forecasts were performed using both the PSRC PM period model, and the Pierce County models. The PSRC model results were used as they represented, on average, the more conservative figures:

Year	SB	NB
2011	1512	1187
2030	1777	1475
Annual growth rate	0.85%	1.15%

2030 forecast based on 2011 traffic counts and current PSRC PM period model

Note that although there was a lane restriction introduced on the bridge in February, 2011, its not expected that this has reduced traffic below what would be expected. This is because the restriction did not disallow heavy vechicles, but only moved them to the outside lane. This assumption is corroborated by the annual traffic report record immediately north of the River Rd/Meridian Ave intersection, which shows that daily traffic has remained constant, ranging between 32,000 and 33,000, from 2005 – 2011.

The current PSRC model was also used to verify the anticipated growth rate from 2030 to 2040, and this rate was applied to the forecast using the current PSRC model to determine the 2035 forecast for the River Rd/Meridian Ave location:

Year	SB	NB
2030	1777	1475
2035	1936	1562
Annual growth rate	1.73%	1.15%

2035 forecast based on 2011 traffic counts and current PSRC PM period model

A comparison of the 2030 forecast, from the 2008 report, and the most recent counts and current PSRC model follows:

Year	From	SB	NB
2030	2008 report	2090	1970
2035	Current counts/model	1936	1562
Difference		154	408
% Difference		+8%	+26%

Comparison of 2030 forecast from the 2008 Perteet report, and the 2035 forecast based on 2011 traffic counts and current PSRC PM period model

Summary and Conclusion

The results show that the 2030 forecast from the 2008 report is higher than the 2035 forecast by 8% and 26% respectively. Reasons for these differences include the use of the 2011 traffic count as a forecasting baseline, which is lower than the 2005 count that was previously used, and the lower growth rate for both directions from 2006 – 2030 found in the most recent model. Although the PSRC model is projecting a higher growth rate between 2030 and 2040, this is not enough of an increase to overcome the difference between the previous and current, and lower, 2030 forecasts.

We recommend assuming that it would be reasonable to use the previous forecasts for the 2030 build condition at the north leg of the River Rd/Meridian intersection location as the 2035 traffic forecast., and that this approach represents a conservative approach to updating environmental documentation for this project.

Appendix B
Addendum to Individual Section 4(f) Evaluation

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Draft Addendum to Section 4(f) Evaluation

SR 167 Puyallup to SR 509
Replacement of Puyallup River Bridge

Pierce County, WA

Prepared By:

WSDOT Olympic Region

XL-4105

December 2012

Prepared For:

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

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SR 167 Puyallup to SR 509
Replacement of Puyallup River Bridge
Draft Addendum to Section 4(f) Evaluation

Introduction

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal Law at 49 U.S.C. §303, declares that it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges and historic sites.

Section 4(f) specifies that the U.S. Secretary of Transportation may approve a transportation program or project requiring the use of publically owned land of a public park, recreation area, or wildlife and waterfowl refuges of national, state or local significance, or land of an historic site of national, state or local significance only if:

1) There is no feasible and prudent alternative to using the land; and
2) The program or project includes all possible planning to minimize harm to the park, recreation area wildlife and waterfowl refuges and historic sites.

This addendum has been prepared in accordance with Federal Highway Administration (FHWA) guidelines for Section 4(f) evaluation for the Puyallup River Bridge Replacement. The proposed alternative would use the State Route (SR) 167 Puyallup River Bridge.

Project History

The Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) proposed the SR 167 Puyallup to SR 509 Extension project, also known as the SR 167 Extension project. They are the lead agencies for compliance with NEPA and SEPA. The SR 167 Extension project is in Pierce County, Washington, within the Cities of Fife, Puyallup, Edgewood, Milton and Tacoma. The environmental analysis for this project was completed in two tiers (stages). The Tier I Environmental Impact Statement (EIS) analyzed the location and environmental aspects of different corridor options and selected the environmentally preferred corridor. The Tier II EIS selected the preferred alignment within the corridor and the interchange configuration.

The Tier II Final Environmental Impact Statement (FEIS) along with Section 4(f) evaluation was issued in November 2006. The Federal Highway Administration (FHWA) issued the Record of Decision (ROD) in October 2007. There was not sufficient funding available to construct the project at that time. WSDOT received funding for preliminary engineering and to purchase right of way. WSDOT has acquired 103 properties that comprise 70% of the corridor right of way. WSDOT received additional funding to continue with right of way acquisition and preliminary engineering as part of the 2012 supplemental budget; however construction for the project remains unfunded.

The SR 167 Puyallup River Bridge (167/20E) replacement, which is a phase of the larger SR 167 Extension undertaking, was recently funded. The northbound SR 167 Puyallup River Bridge, a steel truss bridge, is also called the Meridian Street Bridge. Due to deterioration of the steel truss constructed in 1925, the replacement of the bridge has been re-prioritized and fully funded. The Legislature has mandated the design build process for delivery of this project.

Purpose of the Report

This addendum to the Section 4(f) evaluation is being prepared for this phase of the SR 167 Puyallup to SR 509 Freeway Extension project as discussed above. The original report is provided as Appendix 1 of this addendum. The 4(f) evaluation of the Meridian Street Bridge was not conducted during the Tier II EIS because at the time of the original Section 4(f) evaluation, this bridge was determined not eligible for listing on the National Register of Historic Places (NRHP).

During a recent review of the status of the Meridian Street Bridge, WSDOT determined the bridge is now eligible for listing in the NRHP. The State Historic Preservation Officer (SHPO) has concurred with WSDOT's determination. The documentation is provided as Appendix 2. The Historic Inventory Report is also provided in Appendix 2.

This report will be an addendum to the original Section 4(f) evaluation and will document the impact of the project action. This documentation will be used to modify the NEPA process that was completed for the SR 167 Extension undertaking.

Proposed Action

The subject project proposes to construct a new two-lane bridge across the Puyallup River on SR 167 and to remove the Meridian Street Bridge. The project is located in the City of Puyallup in Sections 21 and 22, Township 20 North Range 4 East. WSDOT will remove, store, and maintain the Meridian Street Bridge until the local jurisdictions, King and Pierce Counties, can install it as a pedestrian bridge on the Foothills Trail or WSDOT will develop a marketing plan for the bridge and actively seek other preservation uses until 2019.

Existing Facility

The SR 167 Puyallup River Bridge is designated Bridge Number 167/20E by WSDOT and it is located at milepost 6.40 just outside the City of Puyallup. The Meridian Street Bridge, which is a steel truss bridge, was built in 1925. It was determined through inspection to be structurally deficient; the steel members are exhibiting severe corrosion and the concrete deck and piers are delaminating.

The Puyallup River Bridge is 371 feet long. The traveled lane width on the bridge is 21 feet from curb to curb with a five foot wooden sidewalk structure attached to the right side of the bridge. In January of 2011, WSDOT implemented a load restriction requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. This was due to floor beam deterioration detected during a routine bridge inspection. In addition, the width of the bridge does not meet current standards for lane and shoulder widths, which is problematic due to the high volume of truck traffic that utilizes the bridge.

The structure is rated as *structurally deficient* based on the floor beam deterioration. Due to the magnitude of deterioration of the structure, annual maintenance costs will begin to rise unless major rehabilitation of the structure occurs.

Since original construction of the bridge, two major projects have taken place to lengthen the life span of the bridge. The first project occurred in 1951, and it replaced the approach spans with new wooden truss structures. In 1991 a second project took place that added new horizontal members to the main steel truss structure, replaced the end bearings, replaced the expansion joints and overlaid the slab. Since those projects have occurred, routine maintenance has occurred with repairs consisting mainly of replacing sheared rivets and spalled concrete.

In addition to the bridge's structural deficiency rating, the two-lane one direction bridge has sub-standard lane and shoulder widths. As a result, the bridge is consistently damaged due to traffic impacts to the barriers and sides of the structure. The floor beams also experience damage due to high vehicular loads. The damage is shown in Exhibits 1 and 2.

Exhibit 1 - Existing Puyallup River Bridge – Concrete Spalling

Exhibit 2 – Puyallup River Bridge –Typical rust in Beams

Section 4(f) Property

WSDOT, on behalf of FHWA, has determined that the Meridian Street Bridge is eligible for inclusion in the NRHP. The Department of Archaeology and Historic Preservation has concurred in this determination, as documented in Appendix 2. This bridge is currently the longest, simply supported, *steel riveted Warren through truss span* built prior to 1940 remaining on the Washington State highway system. The bridge is also significant for its unusual and unique truss configuration.

Alternatives Analysis

The purpose of this alternatives analysis is to evaluate the impacts associated with various alternative design strategies for the project and select the alternative that best meets the project purpose while minimizing adverse impacts to the historic steel truss bridge.

The *purpose and need* of the SR 167 Puyallup River Bridge Replacement project is to provide a structure that meets current standards for lane and shoulder widths and to address the structural deficiency of the existing bridge in order to preserve the SR 167 crossing over the Puyallup River as a part of the SR 167 corridor.

The SR 167 Puyallup River Bridge Replacement project must also address the *purpose and need* of the SR 167 Extension project undertaking. The undertaking will construct a new SR 167 / SR 161 interchange as a part of the SR 167 Freeway Extension. **(See Exhibit 3)** This new interchange will require five northbound lanes and two southbound lanes across the Puyallup River. Currently, there are two lanes for each direction on the adjacent existing steel truss and

concrete bridges that cross the river. The current bridge replacement project is the first phase of the larger undertaking, and it will address the deficiencies of the Meridian Street Bridge.

The design alternatives analyzed in this addendum are: Alternative 1 – No Build, Alternative 2 – Rehabilitation of the Existing Steel Truss, Alternative 3 – Preserve Steel Truss / Construct New Bridge & Alignment, Alternative 4 – Remove Steel Truss / Construct New Bridge and Alternative 5 – Construct New Bridge & Alignment / Remove Steel Truss. These alternatives are discussed below under *avoidance alternatives*, that completely avoid the Section 4(f) resource and *least harm discussion*, where those alternatives that have Section 4(f) resource impacts are discussed and the alternative that has the least overall impact is identified.

Avoidance Alternatives

Alternative 1 – No Build

This alternative would maintain the existing steel truss Puyallup River Bridge as it currently exists. No work would be performed except for routine maintenance. Due to the anticipated continued deterioration of the bridge, at some point routine maintenance will not be sufficient to keep the bridge open to vehicular traffic. Considering the structure is currently load restricted, it is in need of rehabilitation now.

This alternative was rejected during the 2006 FEIS as not prudent. The Preferred Alternative included replacing the steel truss bridge with a new five-lane concrete bridge. The No-Build Alternative would not meet the *purpose and need* of the project or the undertaking. Maintaining the existing steel truss would not provide a bridge that is structurally sufficient, it would not provide a bridge that meets current standards, and it would not accommodate the new freeway interchange to be constructed. In the near term, the No-Build alternative would prohibit truck traffic from traveling southbound across the Puyallup River on SR 167 which would create significant issues for this important freight route.

This alternative would result in long term maintenance issues, would not be consistent with the long term solution for maintaining the SR 167 corridor, and would not allow the Undertaking to be successfully completed. This alternative would not meet the *purpose and need* of either the current project or the undertaking.

Alternative 3 – Preserve Steel Truss / Construct New Bridge & Alignment

This alternative would construct a new bridge on an alternate alignment, and preserve the existing steel truss bridge in-place. This strategy would construct a new bridge adjacent to the existing structures on a new alignment to allow vehicular traffic to be re-routed onto the new bridge while maintaining the steel truss in its current location.

Preserving the steel truss in its current location would present challenges related to the structural integrity of the bridge for an extended period of time. The structural floor beam members have severe corrosion issues. Unless the floor beams are replaced, they would continue to deteriorate to the point of not being able to support the bridge deck. If these floor beams are replaced, the

new beams would impact the historical features of the bridge. Additionally, there is no funding to maintain the bridge at this time.

There also exists the issue of the need to displace the steel truss to construct the ultimate SR 167/161 interchange. The steel truss bridge lies within the footprint of the future five-lane bridge for the undertaking. Moving the future five-lane bridge outside the footprint of the existing bridges (to the east) would entail additional project impacts (right of way, business, water quality, etc.). If the steel truss bridge were to be maintained in its current location, it would need to be moved once funding for the undertaking was secured. The first order of work for the undertaking would be to remove the steel truss and to seek an alternate location for preservation of the structure. This would also require duplication of the environmental documentation and permitting process to allow the removal of the steel truss to occur, requiring additional time and money. Therefore, there is no advantage to leaving the bridge in place during this phase of work.

This alternative could meet the needs of the current project, but it would not meet the *purpose and need* of the undertaking because ultimately, the bridge needs to be removed. Additionally, this alternative is not prudent due to the challenges of preserving the steel truss and because this alternative would not meet the *purpose and need* of the undertaking.

Least Harm Discussion

Alternative 2 – Rehabilitation of the Existing Steel Truss

This alternative would rehabilitate the existing steel truss to the point that it would be structurally sufficient to support freight traffic and would meet current seismic code. The rehabilitation effort would require that the steel members for the floor beams be replaced along with the removal and replacement of the concrete deck. The rehabilitation would also require significant repairs to be done to the foundations and bridge bearing pads to enable the structure to meet current seismic code.

Due to the significant work required, the rehabilitation effort would impact the historical integrity of the steel truss. The new steel members and revisions to the bridge's sub-structure would cause adverse impacts to the historic bridge.

The rehabilitation alternative would not meet the *purpose and need* of the project or the undertaking. Rehabilitation of the steel truss would not provide a bridge that meets current standards for lane and shoulder widths. The current bridge width is too narrow to safely carry two lanes of traffic, particularly considering the high volume of truck traffic. To widen the structure, virtually all of the horizontal steel members would need to be replaced and the layout of the members would also change. This drastic change to the steel truss would compromise its historic integrity.

This alternative would result in expenditures equivalent to the construction of a new bridge, and it would also create significant impacts to traffic and the environment for the duration of the rehabilitation effort. This alternative would also require displacement of the steel truss to occur in the future as a part of the undertaking to allow the new interchange to be constructed. The

rehabilitated steel truss would not be compatible with the new freeway interchange to be constructed as a part of the undertaking. This would result in additional adverse impacts to the historical bridge and the efforts to upgrade the structure and seismically retrofit the bridge foundations would ultimately be lost.

This alternative would not meet the *purpose and need* of either the current project or the undertaking.

Alternative 4 – Remove Steel Truss / Construct New Bridge

This alternative would construct a new bridge in place of the existing steel truss. This plan would require the removal of the steel truss as a first order of work. The new structure would be a two-lane bridge due to the limitations of current funding. The new bridge would meet current standards for lane and shoulder widths, and it would meet current seismic code.

Because current funding limits the project to constructing a two-lane bridge, the new bridge would need to accommodate future widening to five lanes to meet the *purpose and need* of the new SR 167 Extension project undertaking.

Removing the steel truss as a first order of work would constrain the amount of time WSDOT would have to locate a site to preserve the bridge and secure the necessary funding from a third party. Constructing only two lanes of a future five lane bridge would also introduce the risk of the ultimate design dictating revisions to the new structure to be compatible with future design and/or seismic criteria.

Additionally, Alternative 4 would entail greater environmental impacts than Alternative 5. For instance, to remove the steel truss bridge in Alternative 4 a temporary work bridge would need to be constructed over the Puyallup River to accommodate construction equipment, while the existing concrete bridge handles traffic during the construction phase. This would result in more work below the ordinary high water line (OHWL) than Alternative 5, where a temporary work bridge would not be required. Also, this alternative would require purchasing more right of way than Alternative 5.

This alternative, despite the challenges identified, would meet the *purpose and need* of both the project and the new SR 167 Extension project undertaking.

Alternative 5 – Construct New Bridge & Alignment / Remove Steel Truss

This alternative would construct a new bridge and roadway alignment for southbound traffic, and remove the steel truss as a last order of work. **Exhibit 4** details the alignment for the proposed bridge. This plan would successfully accommodate the future new interchange by providing a two-lane structure for southbound traffic, which matches the planned configuration of the new interchange. Northbound traffic would be shifted from the steel truss onto the existing adjacent concrete bridge. Once traffic is moved off of the steel truss, the truss would be removed. In the future, the SR 167 Extension project will remove the existing concrete bridge and construct a

new five lane structure for northbound traffic in the footprint of the existing steel truss and concrete bridges. **(See Exhibit 3)**

Alternative 5 would have less of an environmental impact than Alternative 4. It would require purchasing less right of way, no temporary work bridge would be required and less work below the OHWL would occur under Alternative 5.

Removing the Meridian Street Bridge as a last order of work would provide additional time to identify a site for long term preservation of the steel truss, and it would allow more of an opportunity to identify sources of funding for long term preservation of the structure.

This alternative would meet the *purpose and need* of both the project and the SR 167 Extension project undertaking.

Least Harm Determination

23 CFR 774.3(c)(1) requires that FHWA approve the alternative that causes the least overall harm in light of the statute's preservation purpose. The following factors must be balanced in making this determination:

(i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);

(ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;

(iii) The relative significance of each Section 4(f) property;

(iv) The views of the official(s) with jurisdiction over each Section 4(f) property;

(v) The degree to which each alternative meets the purpose and need for the project;

(vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and

(vii) Substantial differences in costs among the alternatives.

In the following discussion the two alternatives that meet the project's *purpose and need* are discussed. They are **4** and **5.**

The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);

Alternative 5 would provide additional time to identify a site for long term preservation of the Meridian Street Bridge and would allow more of an opportunity to identify sources of funding for long term preservation of the structure.

The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
Alternative 5 would allow for the NRHP-eligible steel truss structure to be removed, stored and maintained; and provides the best chance for it to be preserved for an alternate use. For further detail, see the Measures to Minimize Harm section below.

The relative significance of each Section 4(f) property;
There is only one Section 4(f) property used by the project.

The views of the official(s) with jurisdiction over each Section 4(f) property;
SHPO has concurred with WSDOTs determination that the project, as proposed, will have an adverse effect on the NRHP eligible Meridian Street Bridge and is consulting on the revision of the project MOA to address this adverse effect.

The degree to which each alternative meets the purpose and need for the project;
Alternatives 4 and 5 both meet the *purpose and need* of the SR 167 Puyallup River Bridge Replacement project. However, Alternative 5 would better accommodate the future new interchange by providing a two-lane structure for southbound traffic, which matches the planned configuration of the new interchange. In the future, the SR 167 Extension project (the undertaking) will remove the existing concrete bridge and construct a new five-lane structure for northbound traffic in the footprint of the existing steel truss and concrete bridges. Alternative 4 would construct only two lanes of a future five-lane bridge because current funding limits the project to constructing a two-lane bridge. Constructing only two lanes of a future five-lane bridge would introduce the risk of the ultimate design dictating revisions to the new structure to be compatible with future design and/or seismic criteria, potentially adding additional cost to the project.

After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
Alternative 4 would result in more work below the OHWL and would require purchasing more right of way than Alternative 5.

Substantial differences in costs among the alternatives.
Alternative 4 would have increased costs, as compared to Alternative 5, requiring the purchase of additional right of way and requiring a temporary work bridge not needed for Alternative 5.

Based on the factors above, FHWA has made a preliminary finding that Alternative 5 is the least harm alternative.

Summary

The goal of this project is to provide bridges and a roadway profile compatible with the SR 167 Extension project, which is currently in the preliminary engineering stage and for which right of way has been acquired. The No-Build alternative and refurbishing the steel truss alternative would not meet the *purpose and need* of the undertaking. To ensure forward compatibility with the SR 167 Extension project undertaking, constructing a new bridge in the present location of

the steel truss or constructing a new alignment while preserving the steel truss in place do not satisfy the *purpose and need* of the undertaking. The alternative of constructing a new bridge in place of the existing steel truss bridge could satisfy the *purpose and need* of the undertaking and would meet the needs of the current project. However, current funding would limit the new structure to a two-lane bridge. The new structure would need to accommodate future widening to five lanes to meet the *purpose and need* of the new SR 167 Extension project undertaking. Constructing only two lanes of a future five-lane bridge would introduce the risk of the ultimate design dictating revisions to the new structure to be compatible with future design and/or seismic criteria. Also, because the steel truss would have to be removed as a first order of work, WSDOT would be constrained in the amount of time available to locate a site to preserve the bridge and secure the necessary funding. By constructing a two-lane bridge on a new alignment and then removing the existing steel structure as a last order of work, WSDOT would have additional time to identify a site for long term preservation of the steel truss and to secure sources of funding for long term preservation of the structure. Also, by utilizing the existing concrete bridge to handle north-bound traffic the future SR 167 Extension project undertaking would be able to remove this structure and construct a new five-lane bridge in the footprint of the existing steel truss and concrete bridges. The existing concrete bridge will not meet future design and/or seismic criteria and will have to be removed during the future SR 167 Extension project undertaking.

The most prudent alternative would be to move forward with Alternative 5; constructing a two-lane bridge on a new alignment, and remove the existing steel structure. This alternative meets the *purpose and need* of the undertaking, resolves the imminent issue of the structural deficiency of the steel truss, and positions WSDOT for the best opportunity to preserve the Meridian Street Bridge at a new location.

FHWA and WSDOT have concluded that there is no feasible and prudent alternative to the use of the bridge and therefore proposes to replace the bridge and remove the existing steel truss.

Exhibit 3 - SR 167 / 161 Ultimate Interchange

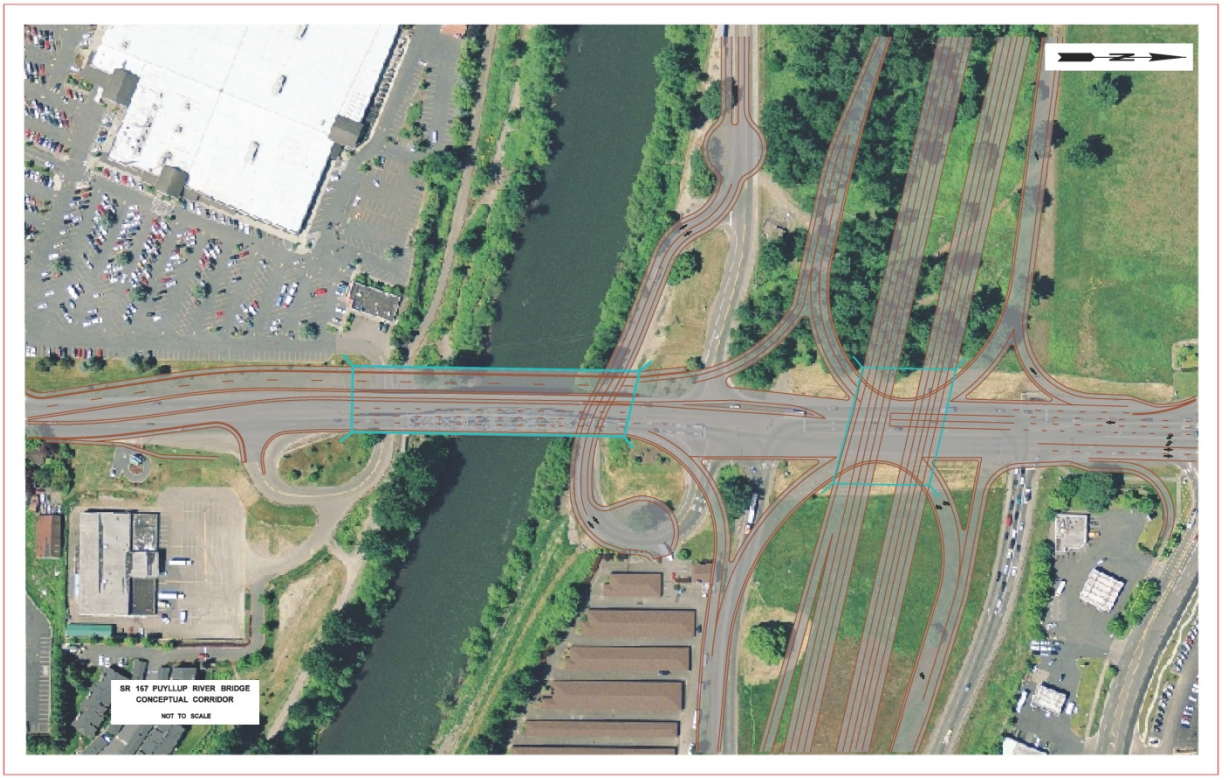

Exhibit 4 - Proposed New Bridge Alignment

Measures to Minimize Harm

The project includes all possible planning to minimize harm and to provide necessary mitigation of Section 4(f) property as detailed below:

1. The project team investigated the surrounding area to determine if the Meridian Street Bridge could be moved upstream and utilized as a pedestrian facility. There are no pedestrian facilities or destinations on the north side of the river, so it is not likely the bridge would be utilized by pedestrians in the vicinity of its present location. In addition, there would be significant right of way costs associated with moving the bridge to a nearby location. An additional challenge would be to secure a local or private entity that would take on the long term maintenance and liability responsibility for a crossing at a nearby location.

2. By removing the structure as a part of the current project, the Meridian Street Bridge will be available to any organization interested in preserving the bridge without the need to obtain environmental permits or to mobilize expensive equipment that would be necessary to work over the river. The steel truss bridge will be inspected, dismantled, and re-furbished on land and will be available as soon as a location for long term preservation is found.

3. WSDOT will arrange to remove, store and maintain the NRHP-eligible steel truss structure to preserve it for an alternate use. WSDOT is working with King and Pierce Counties regarding the potential for use of the Meridian Street Bridge on the Foothills Trail between Enumclaw and Buckley across the White River. King and Pierce Counties are receptive to the potential preservation of the bridge on their trail system. The counties and WSDOT partnered to complete an engineering analysis to confirm that the structure can be successfully refurbished and relocated to the trail crossing. The engineering study has been completed, and the results are that refurbishing the steel truss and relocating it to the Foothills Trail would cost more than constructing a new pedestrian bridge. WSDOT and the counties are investigating to see if there are grant opportunities available for preserving transportation facilities that could be utilized to close the funding gap. Concurrent with these efforts, WSDOT is seeking alternative partners that may have a need and/or interest in the re-use of the historical steel truss bridge. Preservation and re-use of the steel truss as a pedestrian facility would be a positive result for the project.

4. Documentation of the Meridian Street Bridge will be completed in accordance with the Historic American Engineering Record (HAER) standards.

5. Agreement between SHPO and FHWA has been reached through the Section 106 process of the National Historic Preservation Act (NHPA), and a Memorandum of Agreement (MOA) will be signed which details measures to minimize harm. The final MOA is expected by February 2013.

6. In the event a partner is not found to re-use and preserve the steel truss, WSDOT is prepared to store the bridge and market its availability for preservation. The advertisement of the availability of the bridge would occur as soon as it became apparent that the current plan for re-use on the Foothills trail is not feasible. The steel truss would remain in-place until the end of the current project in late 2015, being advertised the entire duration. If no alternative interested parties came forward during that time, WSDOT would remove the steel truss from its current location and store it until June of 2019 at which time funding for further storage and maintenance of the bridge would be evaluated.

Public and Agency Coordination

The public was involved in the SR 167, Extension project in the Tier I EIS and the Tier II EIS with public meetings, newsletters, e-mail notifications, project websites and open houses. The Citizen's Advisory Committee was formed to assist in recognizing local issues and concerns. The project team frequently made presentations to Chambers of Commerce, business associations and civic organizations. The public will now be invited to participate in the SR 167, Puyallup River Bridge Replacement Project by reviewing the Supplemental EIS and providing comments on the information. The input from the public will be carefully considered in agency decision making.

Conclusion

There is no feasible and prudent alternative to the use of the Puyallup River Steel Bridge. WSDOT has incorporated all measures to minimize harm to the Section 4(f) resource. The enclosed MOA demonstrates that the requirements of Section 106 of the NHPA (16 U.S.C. 470) have been satisfied.

Enclosure and Reference

1. Memorandum of Agreement between SHPO and FHWA
2. Appendix 1: SR 167, Tier 2 EIS Section 4(f) Evaluation
3. Appendix 2: DAHP concurrence letter & Historic Inventory Report

Appendix C
Biological Opinion and Update

FHWA & WSDOT, July 2012, *SR 167 Extension ESA Section 7 Formal Update* (NMFS Tracking No. 2005/05617, Federal Aid No. BR-0167 (047))

NMFS Biological Opinion expected in December 2012**. (Will include in Appendix C upon receipt.)**

FHWA & WSDOT, July 2012, *SR 167 Extension ESA Section 7 Formal Update* (USFWS Reference No. 1-3-05-F-0688, Federal Aid No. BR-0167 (047))

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U.S. Department
of Transportation

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July 25, 2012
HFO-WA.4/WA 34

Michael Grady
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115-0070

SR 167 Extension
ESA Section 7 Formal Update
NMFS Tracking No. 2005/05617
Federal Aid No. BR-0167 (047)

Dear Mr. Grady:

The Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) would like to reinitiate Section 7 consultation on the SR 167 extension project. The first phase of the project is scheduled for advertisement in 2013, and will include the replacement of the SR 161 Bridge over the Puyallup River.

Recent design work has resulted in project changes that differ from the description in the original biological assessment (BA). In the original BA, the replacement of the northbound 161 bridge would include construction of a temporary traffic detour bridge and a temporary work platform. We are now proposing to move the location of this bridge, which will reduce in-water project effects to listed species. Details are provided in the enclosure. These changes will still result in a may affect, likely to adversely affect determination for Puget Sound Chinook.

Reinitiation on this project is also required to analyze project effects to Puget Sound steelhead and Pacific eulachon, which were not listed at the time of the original consultation. The project **may affect, and is likely to adversely affect** Puget Sound steelhead, and **may affect, and is not likely to adversely affect** Pacific eulachon.

If you have any questions or require additional information, please contact me at 360-534-9344 or by e-mail at Dean.Moberg@dot.gov.

Sincerely,

DANIEL M. MATHIS, P.E.
Division Administrator

By: Dean W. Moberg
Area Engineer

Enclosure

cc: C. Ward, OR EHS; B. Clarke, OR Project Engineer; M. Carey, HQ ESO

SR 167 Extension Project Reinitiation, July 2012

Introduction

The Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) submitted a biological assessment (BA) for the extension of State Route (SR) 167 on September 27, 2005 to the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). The extension consists of a new six-lane freeway between SR 161 and SR 509 in Pierce County, Washington. Associated project elements included numerous water crossings (including over the Puyallup River), interchanges, and riparian restoration throughout the project area.

The Services requested additional project information after the original BA submittal, which was transmitted to the Services on December 15, 2005. There were several additional information/clarification requests from the Services on stormwater, indirect effects, minimization measures, exposure pathways, and other issues prior to the issuance of the Biological Opinions (BOs). The BA concluded that project impacts would adversely affect Puget Sound Evolutionary Significant Unit (ESU) Chinook salmon, and the Coastal-Puget Sound bull trout DPS. Critical habitat for Puget Sound Chinook was designated September 2, 2005 and for bull trout on September 26, 2005, after the BA was submitted. Subsequent analyses determined that the project would adversely affect critical habitat for Chinook salmon and bull trout.

The USFWS and NMFS BOs were issued on May 31, 2007, and August 20, 2007 respectively (USFWS Ref. No. 1-3-05-F-0688, NMFS Tracking No. 2005/05617). The Services concluded that project actions would not jeopardize the continued existence of these listed species and would not cause adverse modification or destruction of the designated critical habitats in the action area.

FHWA and WSDOT are reinitiating consultation on this project because of changes to the project description and related potential impacts to listed species, and potential impacts to species that have been listed since the issuance of the BOs. These changes were discussed with the Services in a pre-BA meeting on November 17, 2011 at WSDOT Headquarters in Olympia, WA. There has been no construction on the project to date, but the majority of the right-of-way has been purchased.

WSDOT plans on advertising for the first segment of the project in May 2013. This segment will only include work on two SR 161 bridges over the Puyallup River and associated road approaches. In the original project description, the existing two-lane steel bridge would ultimately be replaced with a five-lane structure. In this phase of the work, the deteriorating two-lane steel bridge will only be replaced with a new two-lane bridge, with additional lanes

added at a later date. This work phase will not include changes to work elements in the Hylebos Creek, Surprise Lake Tributary, or Wapato Creek portions of the action area. WSDOT intends to build the project using the design-build process.

Changes to Project Description

There are currently two adjacent SR 161 bridges that cross the Puyallup River within the action area; the northbound structure is a clear-span bridge, has two lanes, is made of steel, and is deteriorating rapidly (dimensions 370' long, with wooden approach structures 100' long on either end, steel truss 22' wide, 40' above ordinary high water {OHM}). The southbound structure is 2 lanes and is made of concrete (dimensions 541' long, 36' wide, and 40' above OHM). In the original project description, the steel bridge would be replaced and the concrete bridge would be widened. To conduct the bridge replacement and widening, two temporary work trestles and one temporary detour bridge were proposed. A barge may also be needed as a work platform for up to two construction seasons.

In the original consultation, the new bridge would be located within the footprint of the existing steel bridge. It was anticipated that building two temporary work trestles and a temporary vehicular detour bridge would take 2 years of construction time, given the proposed 6-week in-water work windows (July 15-August 31). The entire construction period may take several years.

WSDOT is now proposing to put the new bridge 10' downstream of the existing concrete bridge instead of where the existing steel bridge is located. The new bridge would be 541' long, 40' wide, and at least 40' above OHM, and the bridge location, design, and construction method will change. By relocating the new structure, work can be done on the new bridge by staging equipment on the existing concrete bridge. This will reduce the extent of the temporary in-water work trestles that are needed to construct the new bridge (less pile driving), and reduce noise impacts to listed aquatic species. This would also reduce impacts to businesses on the north side of the river. The new bridge will need an in-water pier and a temporary work trestle will be needed for the pier work. The temporary trestle for the pier would be much smaller than the temporary trestle that was originally planned adjacent to the entire length of the steel bridge. Although the specific area and number of piles needed for this temporary trestle are unknown at this stage, it is anticipated that there will be a significant decrease in the over-water trestle area, a decrease in trestle time in-place in the Puyallup River, and a decrease in the number of piles needed for the pier trestle compared to the original plan. The approximate dimensions of the temporary trestle are 30' wide by 100' long, as opposed to a 30' wide trestle the full 300' width of the river. Due to the configuration of the proposed new bridge, the need for a detour bridge has been eliminated.

Work that will be done on the concrete bridge includes removing the existing sidewalk and upgrading the traffic barrier on either side of the bridge deck. No work will be done on the piers of this bridge in this phase of work.

The project will be built with the design/build process, and WSDOT would specify the location of bridge piers, bridge length/width, and touch-down points. Constructability issues would be left to the contractor within the constraints of the consultation.

An additional issue emerged after the project Environmental Assessment (EA) was completed. The existing steel bridge was not considered a historic structure in that analysis. A Section 106 analysis was recently conducted, and the State Historic Preservation Office (SHPO) determined that the steel truss bridge is historic. This bridge will remain in place until a suitable location is found for it (it cannot remain in-place for the full bridge build-out). During that interim period it would be closed to traffic and pedestrians and would not be considered a pollution generating impervious surface. Eventual bridge removal would follow the procedures outlined in the original BA.

Another question was raised in the pre-BA meeting regarding the original stormwater analysis for the SR 161 bridge area. The question was asked if the stormwater analysis had been updated for the bridge area. Potential effects from stormwater were originally analyzed using a precursor to the currently used Hi-Run model. The original analysis was conducted for the Puyallup River drainage basin, and the bridge area was a small part of the larger basin.

Additional design work on stormwater best management practices (BMPs) is in progress, and staff will be conducting a stormwater analysis as plans develop. Preliminary plans show placement of a bioinfiltration swale within the northwest bridge quadrant; this was not in the original BA plans. The two bridge outfalls will also be relocated, with no additional outfalls being constructed. Final plans will be developed by the design-build contractor, and will meet or exceed the design standards specified in the BOs, including the use of enhanced BMPs for this area. WSDOT staff will conduct an updated stormwater analysis once these plans are available.

Changes to the project description are summarized in Table 1.

Table 1. Comparison of Original and Revised Project Description Elements at the Puyallup River, SR 167, Pierce County, WA

Work Element	Original BA 2005	Revised BA 2012
New bridge location	Replace bridge within footprint of existing steel structure	Replace bridge 10' downstream of concrete bridge
New bridge construction	Maximum of 2 in-water piers, drilled shafts	1 in-water pier, drilled shafts
Existing steel bridge historical status	Not historic	Recent SHPO concurrence that steel truss bridge is historic
Existing concrete bridge work	Widen bridge from 33 to 43 feet	No widening in this phase but remove sidewalk and upgrade traffic barriers
SR 161/167 intersection	Change to full interchange	No change
Temporary structures within OHWM	3 structures: 1 trestle for work on steel bridge (maximum of 100 piles), 1 trestle for work on concrete bridge (maximum 100 piles), 1 detour bridge (maximum 100 piles)	Final design based on design build contractor, but 1 temporary trestle for steel bridge pier reduced in area and duration in-water from initial plan, and temporary detour bridge eliminated. Potential reduction of estimated 100-150 in-water piles.
Pollution generating impervious surface	About 70 acres in Puyallup basin	Unchanged
Stormwater treatment	Impacts accessed at basin level. Basic and enhanced treatment to meet performance standards for total and dissolved copper, total and dissolved zinc, suspended sediment	Bioinfiltration swale proposed for NW quadrant of bridge. Stormwater analysis will be conducted once final plans are available.

Potential New Effects to Species From Changes in the Project Description and Effects on Recently Listed Species

Potential Effects to Listed Species from Changes in the Project Description

In the original consultation and subsequent updates, Puget Sound Chinook salmon was found to be adversely affected by proposed project actions, as well as Chinook critical habitat.

New Project Effects on Listed Species

The original BA described effects to Puget Sound Chinook salmon. Chinook are found within the action area in the Puyallup River and Hylebos Creek. The project changes described here only affect the Puyallup River.

Effects to those species were originally described as follows:

- Increased sedimentation and turbidity up to 300 feet downstream of in-water work;
- Potential indirect effects up to 0.25 mile from interchanges;
- Shading from temporary and permanent in-water structures;
- Underwater noise from pile driving up to 0.6 mile upstream and downstream;
- Stormwater discharges to the Puyallup River after treatment; and
- Dewatering and fish handling.

The revised project will still have the same effects, but some of the effects (underwater noise, turbidity, shading) will be reduced in magnitude for the Puyallup River portion of the action area. Although the specific construction methods will not be known until final plans are available from the design-build contractor, it is anticipated that the number of piles for temporary structures in the Puyallup River may be reduced by ⅓ to ½ from the original estimate of 300 piles. This will lead to reduced sound exposure levels for listed and Chinook salmon, fewer days with in-water pile driving and less associated turbidity, less shaded area in the river, a smaller area of impact to benthic prey organisms, and a reduced in-river area for temporary structures that may affect salmonid migration.

Recently Listed Species

There are two species that have been listed since the BOs were issued in 2007. The Puget Sound steelhead distinct population segment (DPS) was listed as threatened on 5/11/07, and the Southern Pacific eulachon DPS was listed on 3/18/10 as threatened. Critical habitat has not been proposed or designated for Puget Sound steelhead, and critical habitat was designated for eulachon on 10/20/11.

Puget Sound Steelhead

Juvenile and adult steelhead are documented in the Blair and Hylebos Waterways, the Puyallup River, and Hylebos Creek, all within the project action area. Juvenile steelhead have occasionally been observed in upper Wapato Creek tributaries, including Simons Creek, but steelhead have not been documented in Surprise Lake Tributary. The Washington Department of Fish and Wildlife (WDFW) recognizes three Puyallup River steelhead stocks: main stem Puyallup winter, White River winter, and Carbon River winter. Adult migration and spawning in the Puyallup River typically occurs from January through June. Data from the Mud Mountain Dam trap on the White River indicate that there is still a small population of summer run steelhead that run from June to October. The vast majority of outmigrant smolts exit the river system by the end of June (Berger and Williamson 2005), and are not thought to rear in the project action area because of degraded habitat conditions on the lower Puyallup River and in Hylebos Creek. It is possible that adult and juvenile steelhead may be in the action area from January through October.

Pacific Eulachon

Eulachon are rare in Puget Sound, and many previous records have now been discredited as misidentification of surf smelt and longfin smelt. Adult eulachon return to freshwater rivers (primarily the Columbia River and tributaries) to spawn from December to May in Washington. There are no known spawning rivers in Puget Sound, but adult eulachon strays have been recorded in several areas. The Lincoln Avenue wetland is connected to the Puyallup River just downstream of the action area, and was monitored for fish species presence from 1986-1989. Eulachon were found in fyke net samples at the mouth of the wetland in 1987 and 1988 (Thom et al. 1990), but spawning in the Puyallup River is not documented or expected.

There is no designated eulachon critical habitat within the project action area.

Determination of Effect

Puget Sound Chinook Salmon

The original determination indicated that the proposed project **may affect, and is likely to adversely affect** Puget Sound Chinook. This determination was based on:

- pier placement may occur in potentially suitable spawning habitat;
- juvenile Chinook salmon potentially occur in the Puyallup River throughout the year and fish handling may be necessary;
- in-water work (pile driving and potential dewatering) is proposed in the Puyallup River and Hylebos Creek, which may result in harm and behavioral disruption to the species.

The revised project with construction of a new SR 161 bridge over the Puyallup River **may affect, and is likely to adversely affect** Puget Sound Chinook, but the effects of underwater noise, turbidity, and shading from temporary in-water structures are expected to be diminished from original estimates because fewer and smaller in-water structures are anticipated.

Puget Sound Chinook Critical Habitat

The original determination indicated that the proposed project **may affect, and is likely to adversely affect** Puget Sound Chinook critical habitat. This determination was based on:

- delayed migration of adult and juvenile Chinook salmon because of replacement and widening of the bridges over the Puyallup River over an estimated 27 month period.

This phase of the project **may affect, and is likely to adversely affect** Puget Sound Chinook critical habitat. Salmon migration will continue to be delayed in this phase of the project, although the size and residence time of temporary in-water structures that may affect migration is expected to be reduced.

Puget Sound Steelhead

The proposed project **may affect, and is likely to adversely affect** Puget Sound steelhead. This determination is based on:

- juvenile and adult steelhead potentially occur in the Puyallup River and juvenile steelhead occur in Blair/Hylebos Waterways and Hylebos Creek, and fish handling will be conducted in these areas;
- elevated turbidity can be expected from various activities in the Hylebos and Puyallup basins including Hylebos Creek channel relocation, grading and filling in both basins, and riparian vegetation restoration activities. Although steelhead exposure to periods of elevated turbidity are expected to be brief because use is restricted to migration, feeding and migration timing may be affected; and
- in-water work (pile driving and potential dewatering) is proposed in the Puyallup River and Hylebos Creek, which may result in harm and behavioral disruption to the species.

Pacific Eulachon

The proposed project **may affect, but is not likely to adversely affect** Pacific eulachon based on:

- eulachon presence in the action area is based on two records from a nearby site on the Puyallup River, and regular eulachon use of the Puyallup River and other waterbodies in the action area is discountable; and
- The proposed in-water work window of July 15-August 31 does not overlap with the known spawning period for eulachon in Washington State freshwater rivers.

There will be **no effect** on eulachon critical habitat, which is not found in the project action area.

There are no additional project updates at this time, but we will keep the Services informed as developments arise.

References

Berger, A. and K. Williamson. 2005. Puyallup River Juvenile Salmonid Production Assessment Project 2004. Puyallup Tribal Fisheries Department. Puyallup, WA.

Thom, R.M., C.A. Simenstad, J. R. Cordell, D.K. Shreffler, and L. Hamilton. 1990. The Lincoln Avenue Wetland System in the Puyallup River Estuary, Washington. Wetland Ecosystem Team, Fisheries Research Institute. Annual Report to City of Tacoma.

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July 25, 2012

HFO-WA.4/WA 34

Mr. Ken Berg
U.S. Fish and Wildlife Service
510 Desmond Drive SE, Suite 102
Lacey, WA 98503

SR 167 Extension
ESA Section 7 Formal Update
USFWS Reference No. 1-3-05-F-0688
Federal Aid No. BR-0167 (047)

Dear Mr. Berg:

The Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) have recently updated information for the State Route (SR) 167 extension project. The first phase of the project is scheduled for advertisement in 2013, and will include the replacement of the SR 161 Bridge over the Puyallup River.

Recent design work has resulted in project changes that differ from the description in the original biological assessment (BA). This letter documents those changes. Although the changes to the project will still result in a **may affect, likely to adversely affect** determination for bull trout, the extent and duration of in-water effects on bull trout have been reduced. The changes to the project description that we discuss here are for your records and we are not requesting reinitiation at this time. We are reinitiating our consultation with the National Marine Fisheries Service (NMFS)and are adding two species that were not listed at the time of the original consultation, Puget Sound steelhead and Pacific eulachon.

FHWA and WSDOT submitted a BA for the extension of SR 167 on September 27, 2005 to the U.S. Fish and Wildlife Service (USFWS) and the NMFS. The extension consists of a new six-lane freeway between SR 161 and SR 509 in Pierce County, Washington. Associated project elements included numerous water crossings (including an improved crossing of SR 161 over the Puyallup River), interchanges, and riparian restoration throughout the project area.

The Services requested additional project information after the original BA submittal, which was transmitted to the Services on December 15, 2005. There were several additional information/clarification requests from the Services on stormwater, indirect effects, minimization measures, exposure pathways, and other issues prior to the issuance of the Biological Opinions

(BOs). The BA concluded that project impacts would adversely affect the Coastal-Puget Sound bull trout DPS. Critical habitat for Puget Sound Chinook was designated September 2, 2005 and for bull trout on September 26, 2005, after the BA was submitted. Subsequent analyses determined that the project would adversely affect critical habitat for bull trout.

The USFWS and NMFS BOs were issued on May 31, 2007, and August 20, 2007, respectively (USFWS Ref. No. 1-3-05-F-0688, NMFS Tracking No. 2005/05617). The Services concluded that project actions would not jeopardize the continued existence of these listed species and would not cause adverse modification or destruction of the designated critical habitats in the action area.

FHWA and WSDOT are updating project information because of changes to the project description and related potential impacts to listed species. These changes were discussed with the Services in a pre-BA meeting on November 17, 2011, at WSDOT Headquarters in Olympia, WA. There has been no construction on the project to date, but the majority of the right-of-way has been purchased.

WSDOT plans on advertising for the first segment of the project in May 2013. This segment will only include work on two SR 161 bridges over the Puyallup River and associated road approaches. In the original project description, the existing two-lane steel bridge was to ultimately be replaced with a five-lane structure. In this phase of the work, the deteriorating two-lane steel bridge will be replaced with a new two-lane bridge, and additional lanes added utilizing the footprint of the two existing bridges at a later date. This work phase will not include changes to work elements in the Hylebos Creek, Surprise Lake Tributary, or Wapato Creek portions of the action area. WSDOT intends to build this project phase using the design-build process.

Changes to Project Description

There are currently two adjacent SR 161 bridges that cross the Puyallup River within the action area; the northbound structure is a clear-span bridge, has two lanes, is made of steel, and is deteriorating rapidly (dimensions 370' long, with wooden approach structures 100' long on either end, steel truss 22' wide, 40' above ordinary high water {OHM}). The southbound structure is 2 lanes and is made of concrete (dimensions 541' long, 36' wide, and 40' above OHM). In the original project description, the steel bridge was to be replaced and the concrete bridge widened. To accomplish the bridge replacement and widening, two temporary work trestles and one temporary detour bridge were proposed. A barge would likely have been needed as a work platform for up to two construction seasons.

In the original consultation, the new bridge was to be located utilizing an expanded footprint of the existing steel bridge. It was anticipated that building two temporary work trestles and a temporary vehicular detour bridge would take 2 years of construction time, given the proposed 6-week in-water work windows (July 15-August 31). The entire construction period would likely have taken several years.

WSDOT is now proposing to put a new bridge 10' downstream of the existing concrete bridge instead of where the existing steel bridge is located. The new bridge will be 541' long, 40' wide, and at least 40' above OHM, and the bridge location, design, and construction method will

change. By relocating the new structure, work can be done on the new bridge by staging equipment on the existing concrete bridge. This will reduce the extent of the temporary in-water work trestles that are needed to construct the new bridge (less pile driving), and reduce noise impacts to listed aquatic species. This will also reduce impacts to businesses on the north side of the river. The new bridge will require an in-water pier and a temporary work trestle will be needed for that pier work. The temporary trestle for the pier will be much smaller than the temporary trestle originally planned adjacent to the entire length of the steel bridge. Although the specific area and number of piles needed for this temporary trestle are unknown at this stage, it is anticipated that there will be a significant decrease in the over-water trestle area, a decrease in trestle time in-place in the Puyallup River, and a decrease in the number of piles needed for the pier trestle compared to the original plan. The approximate dimensions of the temporary trestle are 30' wide by 100' long, as opposed to a 30' wide trestle the full 300' width of the river. Due to the configuration of the proposed new bridge, the need for a detour bridge has been eliminated. To complete the work at some future time, a new five lane structure will be constructed utilizing the foot print of the two existing SR 161 Puyallup River crossings.

Interim work that will be done on the concrete bridge includes removing the existing sidewalk and upgrading the traffic barrier on either side of the bridge deck. No work will be done on the piers of this bridge in this phase of work.

The project will be built with the design/build process, and WSDOT would specify the location of bridge piers, bridge length/width, and touch-down points. Constructability issues would be left to the contractor within the constraints of the consultation.

An additional issue emerged after the project Environmental Assessment (EA) was completed. The existing steel bridge was not considered a historic structure in that analysis. A Section 106 analysis was recently conducted, and the State Historic Preservation Office (SHPO) determined that the steel truss bridge is historic. This bridge will remain in place until a suitable location is found for it, either interim or permanent. The existing steel bridge cannot remain in-place for the full project build-out. During that interim period it will, at a minimum, be closed to traffic and pedestrians and would not be considered a pollution generating impervious surface. Eventual bridge removal will follow the procedures outlined in the original BA. Removal may occur as a part of this bridge replacement phase; negotiations with the SHPO are on-going.

Another question was raised in the pre-BA meeting regarding the original stormwater analysis for the SR 161 bridge area. The question was asked if the stormwater analysis had been updated for the bridge area. Potential effects from stormwater were originally analyzed using a precursor to the currently used Hi-Run model. The original analysis was conducted for the Puyallup River drainage basin, and the bridge area was a small part of the larger basin.

Additional design work on stormwater best management practices (BMPs) is in progress, and staff will be conducting a stormwater analysis as plans develop. Preliminary plans show placement of a bioinfiltration swale within the northwest bridge quadrant; this was not in the original BA plans. The two bridge outfalls will also be relocated, with no additional outfalls being constructed. Final plans will be developed by the design-build contractor, and will meet or exceed the design standards specified in the BOs, including the use of enhanced BMPs for this area. WSDOT staff will conduct an updated stormwater analysis once these plans are available.

Changes to the project description are summarized in Table 1 below.

Table 1. Comparison of Original and Revised Project Description Elements at the Puyallup River, SR 167, Pierce County, WA

Work Element	Original BA 2005	Revised BA 2012
New bridge location	Replace bridge within footprint of existing steel structure	Replace bridge 10' downstream of concrete bridge
New bridge construction	Maximum of 2 in-water piers, drilled shafts	1 in-water pier, drilled shafts
Existing steel bridge historical status	Not historic	Recent SHPO concurrence that steel truss bridge is historic
Existing concrete bridge work	Widen bridge from 33 to 43 feet	No widening in this phase but remove sidewalk and upgrade traffic barriers
SR 161/167 intersection	Change to full interchange	No change
Temporary structures within OHWM	3 structures: 1 trestle for work on steel bridge (maximum of 100 piles), 1 trestle for work on concrete bridge (maximum 100 piles), 1 detour bridge (maximum 100 piles)	Final design based on design build contractor, but 1 temporary trestle for steel bridge pier reduced in area and duration in-water from initial plan, and temporary detour bridge eliminated. Potential reduction of estimated 100-150 in-water piles.
Pollution generating impervious surface	About 70 acres in Puyallup basin	Unchanged
Stormwater treatment	Impacts accessed at basin level. Basic and enhanced treatment to meet performance standards for total and dissolved copper, total and dissolved zinc, suspended sediment	Bioinfiltration swale proposed for NW quadrant of bridge. Stormwater analysis will be conducted once final plans are available.

Potential New Effects to Species From Changes in the Project Description

In the original consultation and subsequent updates, bull trout were found to be adversely affected by proposed project actions, as well as their critical habitat. Bull trout are found in the Puyallup River and may use the mouth of Hylebos Creek. The project changes described here only affect the Puyallup River.

Primary effects to bull trout were originally described as follows:

- Increased sedimentation and turbidity up to 300 feet downstream of in-water work;
- Increased impervious surface will degrade bull trout foraging, overwintering and migrating habitat;
- Project activities will negatively affect hydrologic functions in the lower Puyallup River;
- Underwater noise from pile driving up to 0.6 mile upstream and downstream;
- Stormwater discharges to the Puyallup River after treatment; and
- Dewatering and fish handling.

The revised project will still have the same effects, but some of the effects (underwater noise, turbidity, and shading) will be reduced in magnitude for the Puyallup River portion of the action area. Although the specific construction methods will not be known until final plans are available from the design-build contractor, it is anticipated that the number of piles for temporary structures in the Puyallup River may be reduced by ⅓ to ½ from the original estimate of 300 piles. This will lead to reduced sound exposure levels for listed bull trout, fewer days with in-water pile driving and less associated turbidity, less shaded area in the river, a smaller area of impact to benthic prey organisms, and a reduced in-river area for temporary structures that may affect salmonid migration.

The original determination indicated that the proposed project **may affect, and is likely to adversely affect** bull trout. This determination was based on:

- migrating anadromous bull trout potentially occur in the Puyallup River throughout the year and fish handling may be necessary; and
- in-water work including pile driving and potential dewatering is proposed in the Puyallup River that may result in harm and behavioral disruption to the species.

The revised project with construction of a new SR 161 bridge over the Puyallup River **may affect, and is likely to adversely affect** bull trout, but the effects of underwater noise, turbidity, and shading from temporary in-water structures are expected to be diminished from original estimates because fewer and smaller in-water structures are anticipated.

Bull Trout Critical Habitat

In the original BA, it was concluded that the project **will not result in the destruction or adverse modification** of bull trout proposed critical habitat. The USFWS designated bull trout critical habitat in 2005 and then made a final revision in 2010. Definitions of the primary constituent elements (PCEs) were changed and a new ninth PCE was added in the final 2010 designation. The 2010 revision excluded from critical habitat the area on the Puyallup River within Puyallup Tribal lands. Final critical habitat within the action area is found from approximately river-mile 7.2 to 10.1; this includes the SR 161 Bridge over the Puyallup River. The Puyallup Project actions covered in the original BA and the project changes that are mentioned here were used to analyze effects to bull trout PCEs.

The revised project with construction of a new SR 161 bridge over the Puyallup River **may affect, and is likely to adversely affect** bull trout critical habitat, with an analysis of effects to each PCE below.

PCE 1: Springs, seeps, groundwater sources, and subsurface water connectivity.

There will be adverse effects to this PCE from grading, filling, and new impervious surface, which will reduce soil infiltration, reduce groundwater recharge and reduce subsurface water exchange.

PCE 2: Migration habitats with minimal impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats.

Bull trout use the action area primarily as a migration corridor. Although bull trout will be able to continue to migrate through the action area during and after the project, potential project effects could lead to slight increases in water temperature and temporary, localized turbidity. There will be a new, permanent, in-water pier for the new bridge and associated temporary in-water structures. Collectively, these could alter migration timing or cause bull trout to avoid active work areas in the Puyallup River.

PCE 3: An abundant food base.

Adult anadromous bull trout are migrating through this area and would primarily feed on other fish, including migrating juvenile salmonids. Juvenile salmonids could be affected by temporary turbidity from installation of temporary structures and a new bridge pier in the Puyallup River, as well as by increases in water temperature. Benthic organisms will also be affected by temporary structure footprint and the small, permanent pier footprint. All of these effects are considered insignificant because of the very small or temporary changes that are expected.

PCE 4: Complex river, stream, lake, reservoir, and marine shoreline aquatic environments with features such as large wood, side channels, pools, undercut banks and unembedded substrates.

All of the aquatic habitats in the action area are not properly functioning. The original design had a maximum of three in-water piers for two Puyallup River bridges (1 existing pier and 2 new piers), and the number of piers will likely be reduced. New piers and temporary work structures will have insignificant effects on complex habitat elements. There may be beneficial effects to complex habitat features from riparian and wetland restoration actions.

PCE 5: Water temperatures ranging from 36°F to 59°F with adequate refugia available for temperatures at the upper end of the range.

Water temperature in the lower Puyallup River is at the upper end of the range that bull trout can tolerate. Vegetation removal may directly elevate surface water temperature and grading/filling can indirectly affect surface water by changing groundwater flow and subsurface recharge. Although these effects may lead to increases in surface water temperature, potential riparian restoration along the Puyallup River may have beneficial effects once trees mature and can provide streambank shade.

PCE 6: Substrate of sufficient size, amount, and composition, to ensure egg, fry, young of the year, and juvenile survival.

There is no bull trout spawning habitat in the action area, including that portion of the action area within designated critical habitat. There will be no effect on spawning substrate.

PCE 7: A natural hydrograph with peak, high, low, and base flows within the historic range.

The Puyallup River continues to experience flows below the minimum standard of 1000 cubic feet per second. Peak flows have increased, probably associated with increased impervious surface in the watershed. The current conditions on the lower Puyallup represent departures from the historical conditions. Runoff from new impervious surface associated with this portion

of the project (about 70 acres) will be collected through three outfalls, two of which will discharge into the Puyallup River via the Oxbow Ditch system and one directly into the river. Enhanced treatment Best Management Practices (BMPs) are estimated to infiltrate approximately 92 percent of the runoff. Despite the proposed BMPs, peak flows may be elevated by increased impervious surface in this basin. Potential wetland mitigation may improve floodplain connectivity and attenuate peak flows.

PCE 8: Permanent water having sufficient quantity and quality such that normal reproduction, growth, and survival are not inhibited.

The Puyallup River is a perennial stream with an impaired 303(d) status for high fecal coliform bacteria levels, elevated mercury levels, and low flows. It primarily serves as a migratory corridor for bull trout. Runoff from new impervious surface associated with the project will be treated, but will further degrade water quality, adversely affecting this PCE.

PCE 9: Sufficiently low levels of occurrence of non-native predatory (e.g., lake trout, walleye, northern pike, smallmouth bass); interbreeding (e.g., brook trout); or competing (e.g., brown trout) species that, if present, are adequately temporally and spatially isolated from bull trout.

There will be no project actions that include introduction of non-native predatory, interbreeding, or competing fish species. There will be no project actions that might affect or create migratory pathways between populations of these fish and bull trout in the Puyallup River. There will be no effect to this PCE.

There are no additional project updates at this time, but we will keep the Services informed as developments arise. If you have any questions or require additional information, please contact me at 360-534-9344 or by e-mail at Dean.Moberg@dot.gov.

Sincerely,

DANIEL M. MATHIS, P.E.
Division Administrator

By: Dean W. Moberg
Area Engineer

cc: C. Ward, OR EHS
B. Clarke, OR Project Engineer
M. Carey, HQ ESO

Appendix D
Vicinity Map and Preliminary Bridge Plans

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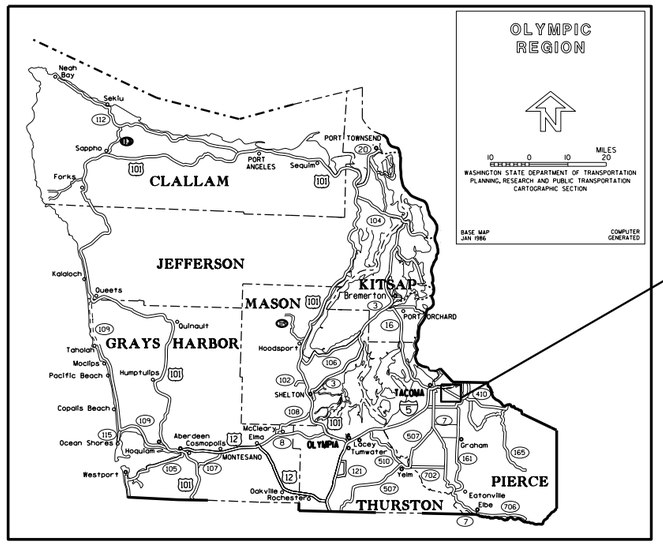
T. 20N. R. 4E. W.M.

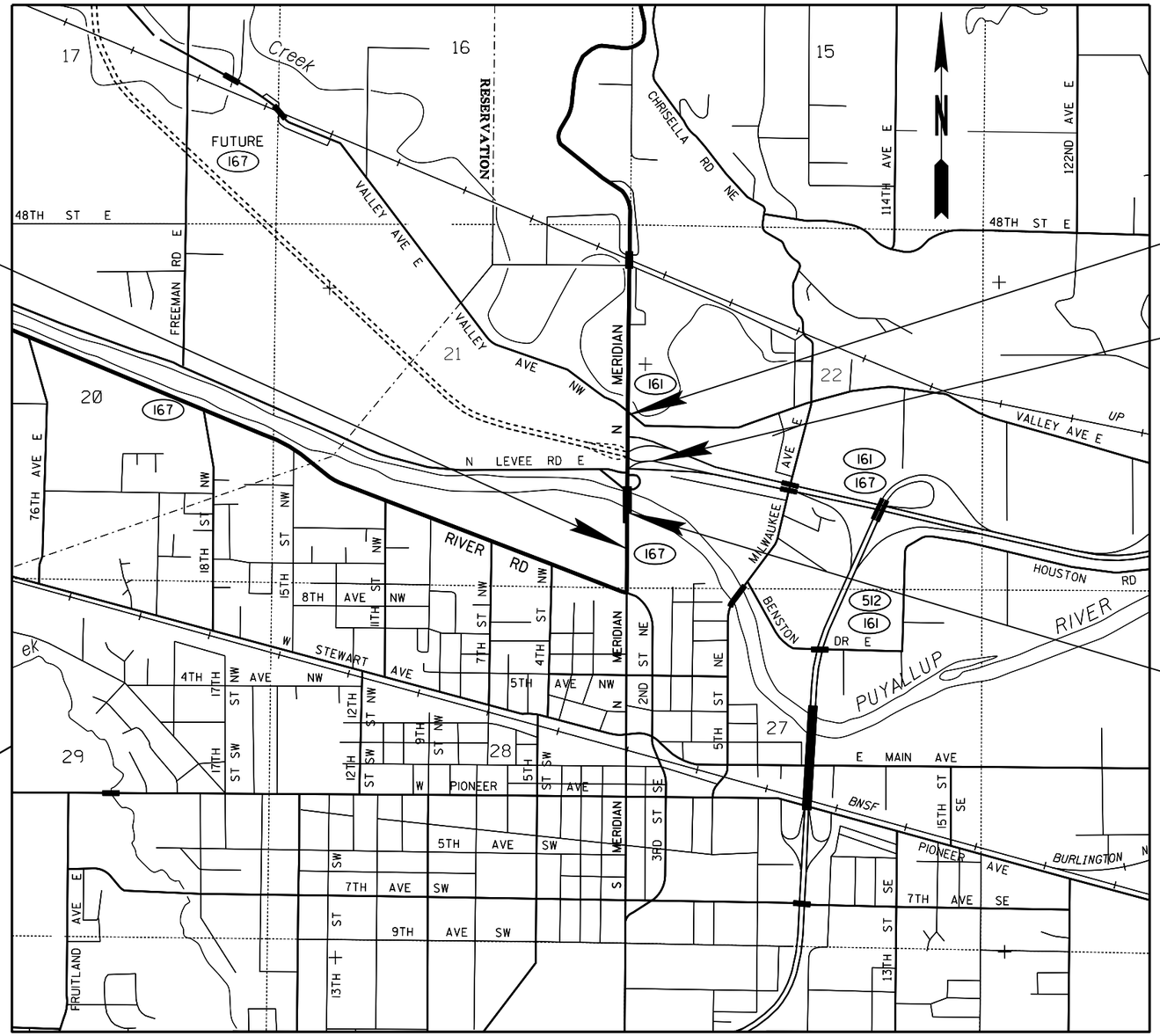
BEGIN NH-0167(047)
BEGIN PROJECT
SR 167 NB MP 6.25B
STA S22+30

END NH-0167(047)
END PROJECT
SR 161 MP 28.79
STA S45+85

END NH-0167(047)
END CONSTRUCTION
SR 167 MP 5.34
EBC16 STA 13+00

INCLUDED IN PROJECT
BRIDGE NO. 167/20W
BRIDGE NO. 167/20E





0 1000 2000
SCALE IN FEET

FILE NAME	G:\DESIGN TEAM\SR 167 PuyallupRiverBridge\CADD\05.03 PS&E Sheets\XL4105_VM_01.dgn				REGION NO.	STATE	FED.AID PROJ.NO.
TIME	8:54:45 AM				10	WASH	
DATE	1/30/2012				JOB NUMBER		
PLOTTED BY	MooreA				10C528		
DESIGNED BY	R. Baugh				CONTRACT NO.		LOCATION NO.
ENTERED BY	A. Moore						XL4105
CHECKED BY	R. Baugh						
PROJ. ENGR.	B. Clarke						
REGIONAL ADM.	K. Dayton	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

SR 167
PUYALLUP RIVER BRIDGE
BRIDGE REPLACEMENT

VICINITY MAP

PLAN REF NO **V1**

SHEET **2** OF **63** SHEETS

SEC. 21 & 22, T.20N., R.4E., W.M.
CITY OF PUYALLUP

SR 167

CURVE DATA					
P.I. STA.	Δ	RADIUS	TANGENT	LENGTH	BACK TANGENT BEARING
S 36+34.29	3°57'32" RT.	1200.03'	41.47'	82.92'	N 1°03'15" E
N 29+32.13	8°37'17" RT.	1175.03'	88.57'	176.81'	N 7°34'01" W
N 36+08.13	4°15'50" RT.	1200.03'	44.67'	89.30'	N 1°03'15" E

PT. OF MIN. VERT. CLR.:
S STA. 30+67 (21.5' LT.)
S STA. 31+20 (21.5' LT.)
S STA. 35+22 (21.5' LT.)
S STA. 35+68 (21.5' LT.)

COAST GUARD LIAISON GAW
COAST GUARD PERMIT NOT REQ'D N/A
PERMIT TARGET DATE

560'-0" BK. TO BK. OF PAV'T SEAT

25'-0" BRIDGE APPROACH SLAB
TEMPORARY CONSTRUCTION EASEMENT BOUNDARY
NEW EASEMENT BOUNDARY
120'-0" (WF58G)
120'-0" (WF100G)
200'-0" (WF100G)
120'-0" (WF100G)
25'-0" BRIDGE APPROACH SLAB
S STA. 35+51.68 (22.5' LT.)
8'-0" CURTAIN WALL
RET. WALL FM
PROPOSED R/W BOUNDARY
PT. OF MIN. VERT. CLR.
BRIDGE RAILING TYPE BP
20'-0" BRIDGE WINGWALL (TYP. @ 3 CORNERS)
N LEVEE RD.
S STA. 36+05.00 (29.23 LT.)
THRIE BEAM CONNECTION TYPE D PER STANDARD PLAN C-5 (TYP. @ 3 CORNERS)
P.T. = 36+75.73
PROFILE GRADE & PIVOT POINT
TO SR 167 WYE CONN. 0.21 MILES
TO SR 167 WYE CONN. 0.12 MILES
IRRIGATION BOX
EXP. JT.
SIDEWALK
32 CURB LINE
33 S LINE
47'-2⅛"
34
-0.02'/FT. SLOPE
+0.02'/FT. SLOPE
35
36
FACE OF ABUTMENT WALL (TYP.)
NEW SB SR 167 BR. NO. 167/20W
N 1°03'15" E
EXIST. R/W BOUNDARY
PT. OF MIN. VERT. CLR.
P.C. = 35+92.82
P.T. = 36+52.76
30'-0" ROADWAY
32'-0" ROADWAY
8.5' SW
2' SH.
12' LN.
4' SH.
EXIST. SB SR 167 BR. NO. 167/20W (TO BE MODIFIED)
EXIST. W SLOPE
EXIST. SLOPE
EX. EXP. JT. (TYP.)
N LINE
N 1°03'15" E
P.T. = 30+20.37
P.C. = 35+63.46
S 84°40'55" E
LVL LINE

NOTE: ALL EXISTING UTILITY LINES ARE TO REMAIN UNLESS OTHERWISE NOTED

EXIST. NB SR 167 BR. NO. 167/20E (TO BE REMOVED)
EXIST. R/W BOUNDARY
PUYALLUP RIVER
F LINE
4TH ST. NE
TRAIL
10'-0"
EXISTING ROADWAY VARIES
EXISTING N LEVEE RD. VARIES
GRATE INLET
EXIST. CULVERT (TO REMAIN)

PLAN

THE BEARING OF ALL PIERS IS NORMAL TO S LINE

VPI S STA. 32+26.00
ELEV. 75.92
+ 5.0000 %
-4.6903 %
700.00' V.C.

S LINE PROFILE

DATUM
NAVD 88

BK. OF PAV'T SEAT PIER 1
S STA. 30+20.00
GR. ELEV. 64.21
18.4' MIN. VERT. CLR.
17.9' MIN. VERT. CLR.
℄ PIER 2
S STA. 31+40.00
GR. ELEV. 66.81
℄ PIER 3
S STA. 32+60.00
GR. ELEV. 67.41
FRACTURED FIN FINISH W/PIGMENTED SEALER (TYP.)
℄ PIER 4
S STA. 34+60.00
GR. ELEV. 63.98
BK. OF PAV'T SEAT PIER 5
S STA. 35+80.00
GR. ELEV. 59.27
16.7' MIN. VERT. CLR.
10.2' MIN. VERT. CLR.
2:1 MAX. SLOPE (TYP.)
EXISTING GROUND LINE ALONG LEFT CURB LINE
4TH ST. NE
TRAIL
NORMAL HIGH WATER ELEV. 33.5
N. LEVEE RD.
PIGMENTED SEALER (TYP.)
REFERENCE LINE ELEVATION 10.0
100 YR. M.R.I. Q = 48,000 CFS
W.S. ELEV. = 40.0
FINISH GROUND LINE ALONG RIGHT CURB LINE

ELEVATION

GRADE ELEVATIONS SHOWN ARE FINISH GRADES AT TOP OF BRIDGE DECK ON S LINE AND ARE EQUAL TO PROFILE GRADE.
SE STD. PLAN A-50.10-00 FOR EMBANKMENT DETAILS AT BRIDGE ENDS.

NOTE:
500 YR. M.R.I. Q = 63,000 CFS
W.S. ELEV. 42.5

LEGEND

- EXIST. GUY ANCHOR
- EXIST. LIGHT STANDARD
- CATCH BASIN
- EXIST. CATCH BASIN
- EXIST. SIGN
- EXIST. TELEPHONE POLE
- EXIST. POWER POLE
- EXIST. WATER VALVE
- MANHOLE
- SOIL BORING LOCATIONS
- # MATCH EXIST. CONC. SLOPE PROTECTION
- Ω 2 ~ 2"ø CONDUIT PIPES IN TRAFFIC BARRIER FULL LENGTH OF BRIDGE AND APPROACH SLAB (TYP.)
- α EXIST. UTILITY (TO BE REMOVED)
- EXIST. GUARDRAIL
- EXIST. FENCE
- EXIST. BURIED OPTIC FIBER
- EXIST. OVERHEAD POWER
- EXIST. STORM DRAIN
- EXIST. BURIED TELEPHONE
- EXIST. BURIED POWER
- EXIST. BURIED WATER
- EXIST. DITCH

BRIDGE WITH APPROACH FILLS
WF100G P.C. GIRDERS
"A" DIMENSION = 10" (PRELIMINARY ~ NOT FOR DESIGN)
DECK PROTECTIVE SYSTEM 1 (EPOXY COATED REBARS)
CAST-IN-PLACE CONCRETE STRENGTH SHALL BE 4000 PSI

PLAN APPROVED BY:

BRIDGE & STRUCTURES ENGINEER

PROJECT DEVELOPMENT ENGINEER

Bridge Design Engr.	M:\PRELIMINARY PLANS\SR 167 Puyallup River Bridge\3-12 LAYOUT.MAN				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor					10	WASH.			
Designed By					JOB NUMBER				
Checked By									
Detailed By Lemcke, D. 03/12									
Bridge Projects Engr.									
Prelim. Plan By Wei, J. 03/12									
Architect/Specialist	DATE	REVISION	BY	APP'D					

Thu Apr 05 09:12:32 2012

BRIDGE AND STRUCTURES OFFICE

JUGESH KAPUR — STATE OF WASHINGTON — 20409 — REGISTERED PROFESSIONAL ENGINEER

Washington State Department of Transportation

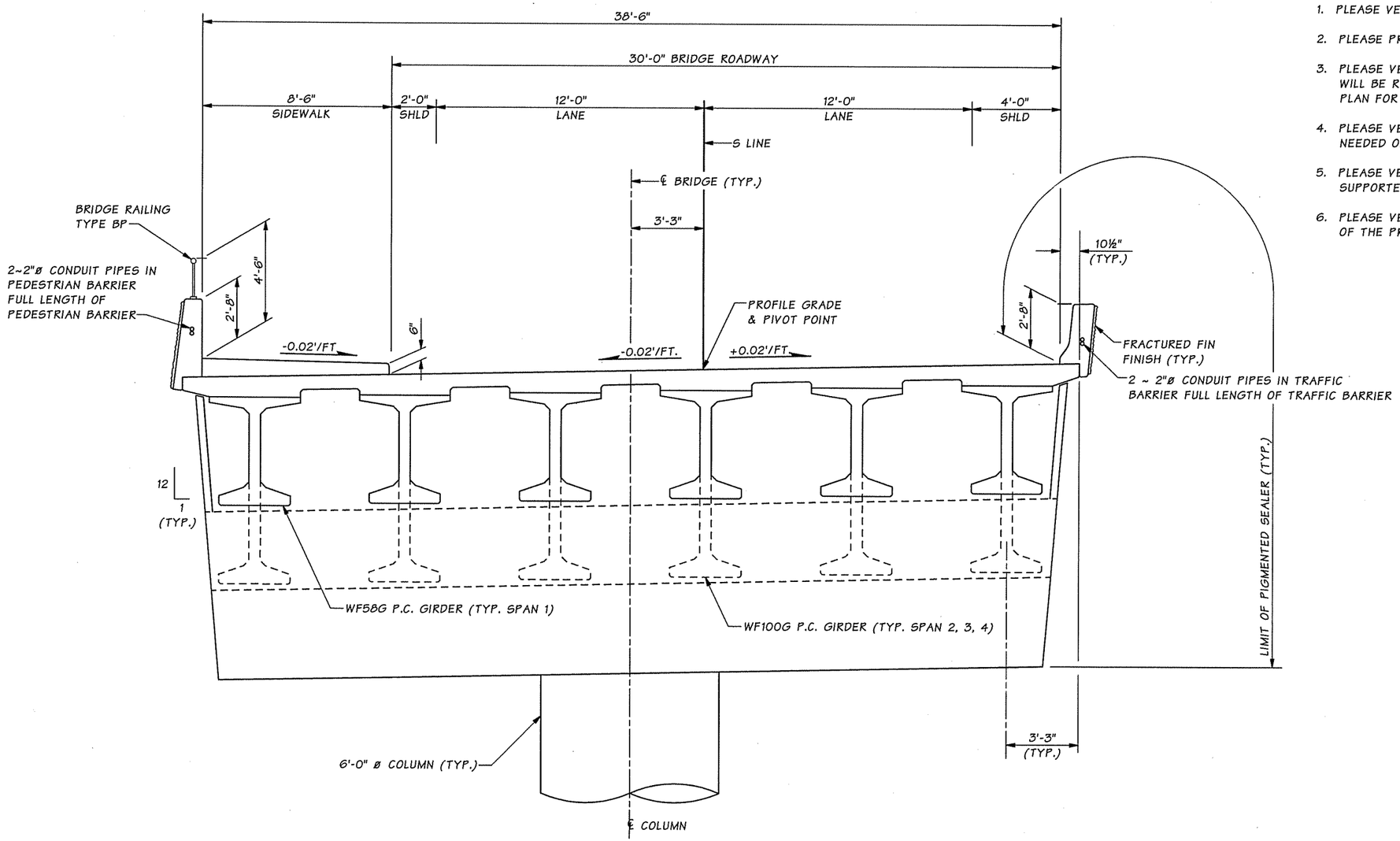
PRELIMINARY PLAN

BRIDGE SHEET NO. 1 — SHEET OF SHEETS

SR 167 FILE NO. 7032 SHEET 1 OF 5

C. S. 2707 ~ PROJ. NO. XL4105 ~ OLYMPIC REGION ~ SR 167 ~ MP 6.38 TO MP 6.52 ~ SB SR 167 PUYALLUP RIVER BRIDGE (NEW BRIDGE)

P.C. GIRDERS (WF58G & WF100G)
CONT. FOR LL
LOADING: HL-93



TYPICAL SECTION - NEW SB SR 167 BRIDGE

SHOWN NEAR PIER 2
SUBSTRUCTURE DIMENSIONS SHOWN ARE APPROXIMATE

NOTES TO REGION

1. PLEASE VERIFY PUYALLUP RIVER HYDRAULICS DESIGN DATA.
2. PLEASE PROVIDE RIPRAP DESIGN LIMITS AND DETAILS.
3. PLEASE VERIFY IF EXISTING NB SR 167 BRIDGE NO. 167/20E WILL BE REMOVED IN THIS PROJECT. IF NOT, WHAT IS THE PLAN FOR THE EXISTING NB SR 167 BRIDGE?
4. PLEASE VERIFY IF THERE WILL BE ANY NEW UTILITY LINES NEEDED ON THE PROPOSED NEW SB SR 167 BRIDGE.
5. PLEASE VERIFY IF THERE ARE ANY PROPOSED BRIDGE SUPPORTED SIGNS OR LUMINAIRES ON THE BRIDGES.
6. PLEASE VERIFY RETAINING WALL REQUIREMENT AT WEST SIDE OF THE PROPOSED NEW SB SR 167 BRIDGE.

C. S. 2707 ~ PROJ. NO. XL4105 ~ OLYMPIC REGION ~ SR 167 ~ MP 6.38 TO MP 6.52 ~ SB SR 167 PUYALLUP RIVER BRIDGE (NEW BRIDGE)

SR 167 FILE NO. 7032 SHEET 2 of 5

Bridge Design Engr.	M:\PRELIMINARY PLANS\SR 167 Puyallup River Bridge\TYP SECT.MAN				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor					10	WASH.			
Designed By					JOB NUMBER				
Detailed By Lemcke, D. 01/12									
Bridge Projects Engr.									
Prelim. Plan By Wei, J. 01/12									
Architect/Specialist	DATE	REVISION	BY	APP'D					

Thu Apr 05 09:36:13 2012

BRIDGE AND STRUCTURES OFFICE

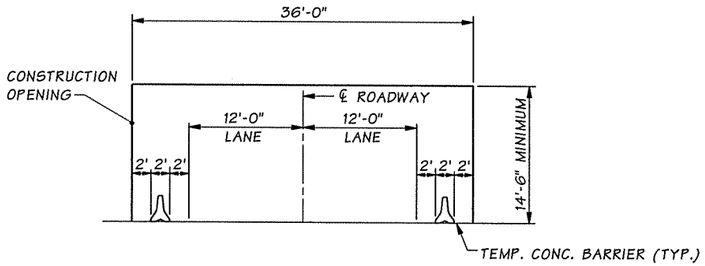
JUGESH KAPUR — STATE OF WASHINGTON — 15409 — REGISTERED PROFESSIONAL ENGINEER

Washington State Department of Transportation

PRELIMINARY PLAN

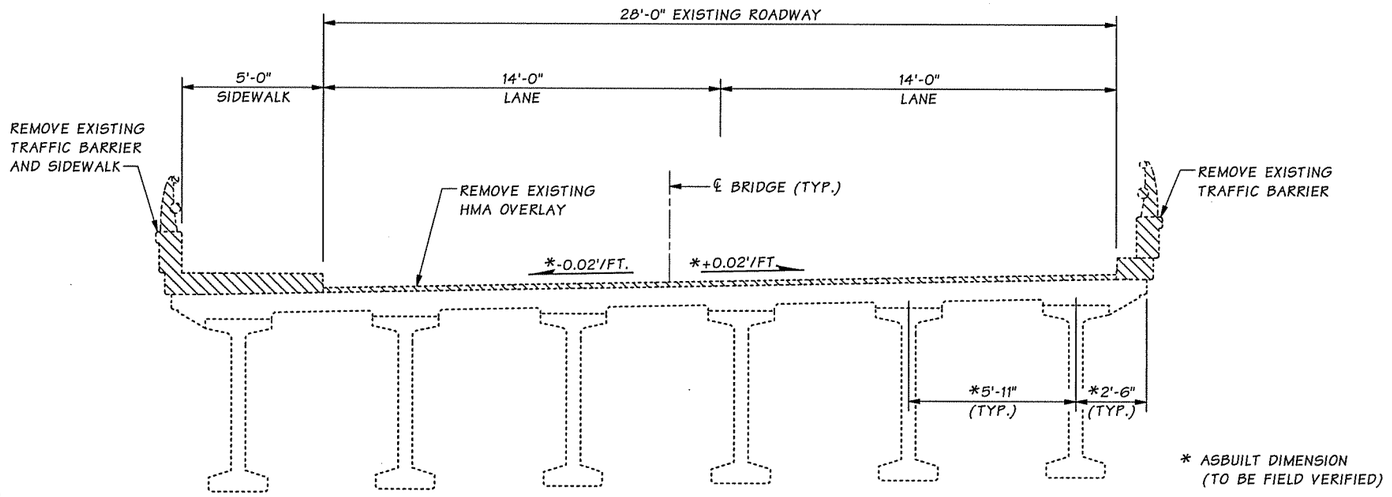
BRIDGE SHEET NO. 2

SHEET OF SHEETS



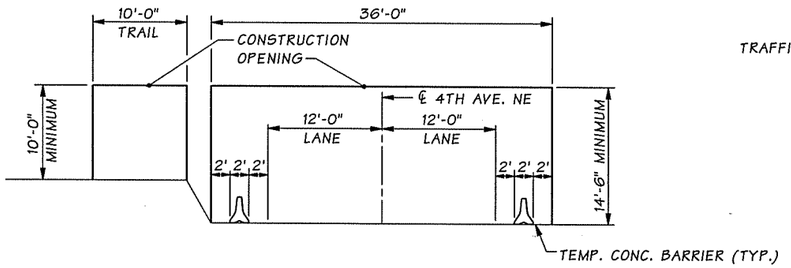
CONSTRUCTION OPENING DIAGRAM

N. LEVEE RD.



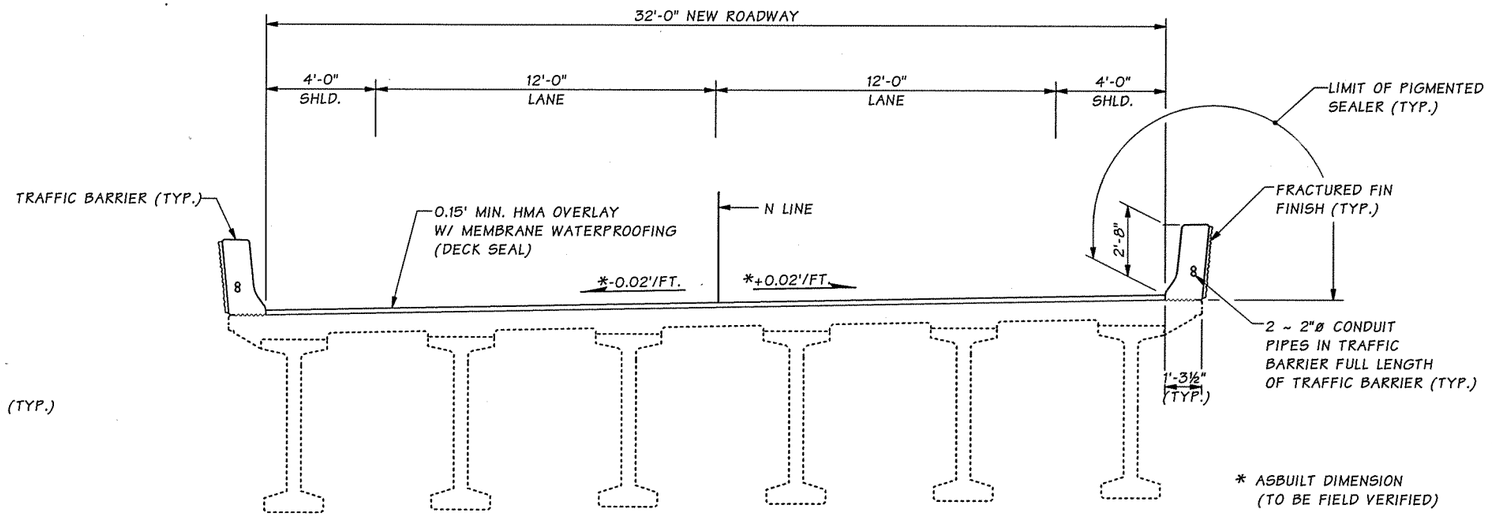
TYPICAL SECTION ~ EXISTING SB SR 167 BRIDGE

SHOWN NEAR MID SPAN OVER PUYALLUP RIVER



CONSTRUCTION OPENING DIAGRAM

4TH ST. NE & TRAIL



TYPICAL SECTION ~ MODIFIED EXISTING SB SR 167 BRIDGE

SHOWN NEAR MID SPAN OVER PUYALLUP RIVER

C. S. 2707 ~ PROJ. NO. XL4105 ~ OLY REGION ~ SR 167 ~ MP 6.38 TO MP 6.52 ~ SB SR 167 PUYALLUP RIVER BRIDGE (MODIFIED EXIST. BRIDGE)

SR 167 FILE NO. 7032 SHEET 3 of 5

Bridge Design Engr.	M:\PRELIMINARY PLANS\SR 167 Puyallup River Bridge\EXIST TYP SECT.MAN			REGION NO.	STATE
Supervisor				10	WASH.
Designed By				JOB NUMBER	
Checked By					
Detailed By Lemcke, D. 01/12					
Bridge Projects Engr.					
Prelim. Plan By Wei, J. 01/12					
Architect/Specialist	DATE	REVISION	BY	APP'D	

Fri Mar 30 11:10:28 2012

FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS

BRIDGE AND STRUCTURES OFFICE

JUGESH KAPUR — STATE OF WASHINGTON — 25400 — REGISTERED PROFESSIONAL ENGINEER

Washington State Department of Transportation

PRELIMINARY PLAN

BRIDGE SHEET NO. 3

SHEET OF SHEETS

N LINE EXISTING ROADWAY			
POINT #	ELEVATION	N LINE STATION	OFFSET
30670	53.27	29+33.866	-18.19
30662	55.98	30+04.900	-17.05
30656	56.81	30+20.354	-16.82
12103	56.83	30+20.685	-16.68
12102	57.18	30+30.292	-16.76
12097	57.54	30+40.364	-16.75
12096	57.85	30+50.547	-16.76
12091	58.17	30+60.483	-16.76
12090	58.43	30+70.431	-16.78
12085	58.69	30+80.926	-16.75
12083	58.93	30+90.544	-16.73
12078	59.14	31+00.681	-16.72
12077	59.34	31+10.335	-16.75
12072	59.55	31+20.394	-16.70
12070	59.73	31+30.186	-16.76
12061	59.89	31+40.986	-16.75
12060	60.03	31+50.535	-16.77
12055	60.16	31+60.390	-16.70
12053	60.31	31+70.487	-16.76
12048	60.45	31+80.201	-16.72
12043	60.58	31+90.609	-16.79
12042	60.73	32+00.423	-16.79
12037	60.81	32+10.488	-16.80
12036	60.91	32+20.392	-16.78
12031	61.01	32+30.286	-16.75
12030	61.11	32+40.170	-16.80
12025	61.17	32+50.245	-16.76
11986	61.27	32+60.479	-16.87
11981	61.30	32+70.381	-16.86
11980	61.35	32+80.475	-16.87
11974	61.37	32+90.918	-16.88
11969	61.46	33+00.364	-16.88
11967	61.50	33+10.569	-16.89
11962	61.50	33+20.424	-16.89
11961	61.49	33+30.361	-16.90
11955	61.46	33+40.446	-16.89
11954	61.43	33+50.534	-16.87
11949	61.37	33+60.373	-16.84
11947	61.28	33+70.386	-16.89
11942	61.24	33+80.636	-16.89
11938	61.16	33+90.626	-16.92
11931	61.06	34+00.638	-16.83
11930	60.98	34+10.612	-16.92
11920	60.84	34+19.635	-16.91
11917	60.65	34+32.753	-16.88
11916	60.56	34+40.673	-16.86
11911	60.40	34+50.601	-16.89
11910	60.24	34+60.834	-16.89
11905	60.04	34+70.853	-16.89
11904	59.84	34+80.710	-16.88
11899	59.61	34+90.702	-16.90
11898	59.40	35+00.670	-16.88
11893	59.17	35+10.705	-16.89
11892	58.94	35+20.609	-16.90
11886	58.71	35+30.742	-16.88
11884	58.47	35+40.723	-16.89
11879	58.24	35+50.605	-16.88
11878	57.97	35+60.496	-16.87
POINTS ALONG LT. EDGE OF SIDEWALK			

* EXPANSION JOINT SURVEY POINTS

N LINE EXISTING ROADWAY			
POINT #	ELEVATION	N LINE STATION	OFFSET
30672	52.64	29+33.704	-13.07
30657	56.05	30+20.341	-11.75
12107	56.04	30+20.585	-11.73
12100	56.43	30+30.587	-11.78
12099	56.79	30+40.542	-11.78
12094	57.11	30+50.530	-11.72
12093	57.42	30+60.576	-11.73
12088	57.71	30+70.588	-11.77
12087	57.96	30+80.644	-11.70
12081	58.18	30+90.578	-11.72
12080	58.4	31+00.549	-11.76
12075	58.6	31+10.577	-11.76
12074	58.78	31+20.546	-11.76
12068	58.92	31+30.559	-11.75
* 12065	59.13	31+40.987	-11.76
* 12064	59.11	31+41.309	-11.76
12058	59.18	31+50.555	-11.78
12057	59.33	31+60.565	-11.75
12051	59.48	31+70.564	-11.76
12050	59.63	31+80.551	-11.78
12045	59.79	31+90.595	-11.76
12040	59.89	32+00.531	-11.79
12039	60.03	32+10.490	-11.75
12034	60.13	32+20.544	-11.79
12033	60.27	32+30.482	-11.77
12028	60.37	32+40.504	-11.81
12027	60.41	32+50.485	-11.83
11984	60.52	32+60.532	-11.88
11983	60.56	32+70.503	-11.90
11978	60.6	32+80.486	-11.90
* 11976	60.66	32+87.329	-11.88
* 11975	60.66	32+87.569	-11.88
11972	60.63	32+90.489	-11.89
11971	60.73	33+00.553	-11.89
11965	60.75	33+10.566	-11.91
11964	60.78	33+20.570	-11.92
11959	60.77	33+30.604	-11.91
11957	60.73	33+40.599	-11.93
11952	60.7	33+50.536	-11.88
11951	60.65	33+60.632	-11.94
11945	60.57	33+70.611	-11.95
11944	60.5	33+80.636	-11.93
11940	60.42	33+90.666	-11.96
11933	60.3	34+00.726	-11.92
11928	60.17	34+10.732	-11.91
* 11923	60.04	34+18.983	-11.93
* 11922	60.04	34+19.251	-11.89
11919	59.75	34+32.137	-11.91
11914	59.66	34+40.753	-11.91
11913	59.55	34+50.774	-11.93
11908	59.39	34+60.763	-11.93
11907	59.21	34+70.773	-11.92
11902	59.03	34+80.746	-11.92
11901	58.84	34+90.764	-11.93
11896	58.65	35+00.730	-11.93
11895	58.42	35+10.713	-11.91
11889	58.22	35+20.767	-11.95
11888	57.99	35+30.728	-11.95
11882	57.75	35+40.718	-11.92
11881	57.48	35+50.707	-11.92
11875	57.21	35+60.727	-11.92
11874	57.05	35+65.020	-11.90
POINTS ALONG FACE OF SIDEWALK			

N LINE EXISTING ROADWAY			
POINT #	ELEVATION	N LINE STATION	OFFSET
11196	53.01	29+28.847	0.82
11192	55.02	29+82.003	2.40
11187	56.37	30+19.958	2.34
11992	56.77	30+31.062	2.12
11991	57.43	30+50.134	1.83
11990	58.03	30+70.316	1.95
11989	58.53	30+91.087	2.03
11988	58.93	31+11.037	2.10
11987	59.20	31+29.809	1.93
11798	60.48	32+20.658	2.02
11797	60.60	32+38.286	1.94
11796	60.83	32+60.340	2.01
11795	60.94	32+80.924	1.84
11794	61.06	33+01.082	1.87
11793	61.08	33+20.977	1.80
11792	61.06	33+40.701	1.82
11791	60.94	33+60.610	1.81
11790	60.71	33+90.476	1.41
11789	60.57	34+00.931	1.39
* 11925	60.34	34+14.060	1.62
* 11924	60.35	34+14.289	1.65
11788	60.23	34+21.056	1.81
11787	60.00	34+40.611	1.88
11786	59.73	34+60.818	1.81
11785	59.35	34+80.563	1.65
11784	58.95	34+99.964	1.95
11783	58.48	35+20.702	1.86
117821	58.03	35+40.849	1.82
K109185	57.34	35+63.165	1.86
K109186	56.37	36+01.752	1.38
POINTS ALONG CENTER LINE EXISTING SB 167			

N LINE EXISTING ROADWAY			
POINT #	ELEVATION	N LINE STATION	OFFSET
11184	56.31	30+16.070	15.64
11183	56.57	30+20.117	15.76
12108	56.54	30+20.342	16.19
12022	57.01	30+30.247	16.13
12019	57.36	30+40.635	16.16
12018	57.64	30+49.894	16.13
12015	57.96	30+60.329	16.08
12014	58.25	30+69.936	16.15
12011	58.49	30+80.037	16.06
12010	58.72	30+90.037	16.11
12007	58.97	31+00.828	16.10
12006	59.14	31+09.379	15.93
12003	59.32	31+21.005	16.16
12002	59.44	31+29.299	16.10
* 12067	59.50	31+30.758	16.13
* 12066	59.49	31+31.077	16.11
11999	59.61	31+40.612	16.16
11998	59.73	31+49.009	16.18
11995	59.97	31+60.902	16.18
11994	60.09	31+70.417	16.21
11870	60.27	31+80.911	16.09
11869	60.41	31+91.654	16.06
11866	60.53	32+00.923	16.06
11865	60.69	32+11.731	16.03
11862	60.77	32+21.091	16.04
11861	60.85	32+30.744	16.06
11858	60.97	32+41.776	16.07
11857	61.06	32+51.595	16.00
11854	61.13	32+60.495	16.00
11853	61.19	32+70.695	16.04
* 12024	61.19	32+77.119	16.07
* 12023	61.20	32+77.412	16.06
11850	61.22	32+82.271	16.04
11849	61.29	32+89.467	16.04
11846	61.34	33+00.507	16.03
11845	61.39	33+09.938	16.04
11841	61.38	33+30.781	15.99
11840	61.34	33+40.950	15.99
11837	61.27	33+50.625	16.02
11836	61.17	33+60.951	15.97
11833	61.08	33+69.365	15.91
11832	61.02	33+80.599	16.01
11829	60.95	33+90.069	16.03
11828	60.79	34+01.007	15.99
* 11926	60.69	34+08.821	15.83
* 11927	60.70	34+09.030	15.88
11825	60.65	34+10.393	16.04
11823	60.38	34+29.881	16.01
11822	60.27	34+40.470	16.04
11819	60.12	34+50.886	16.01
11818	59.99	34+60.270	16.00
11815	59.82	34+70.418	16.02
11814	59.69	34+80.434	16.01
11811	59.51	34+89.182	16.00
11810	59.29	34+99.055	16.00
11807	59.04	35+10.755	16.01
11806	58.80	35+20.177	16.01
11803	58.52	35+30.579	16.02
11802	58.31	35+41.350	16.02
11801	57.95	35+54.884	16.08
POINTS ALONG RT. FACE OF CURB			

C. S. 2707 ~ PROJ. NO. XL4105 ~ OLYMPIC REGION ~ SR 167 ~ MP 6.38 TO MP 6.52 ~ SB SR 167 PUYALLUP RIVER BRIDGE (NEW BRIDGE)

SR 167 FILE NO. 7032 SHEET 4 of 5

Bridge Design Engr.	M:\PRELIMINARY PLANS\SR 167 Puyallup River Bridge\TABLE 1.MAN				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor					10	WASH.			
Designed By					JOB NUMBER				
Checked By									
Detailed By Lemcke, D. 01/12									
Bridge Projects Engr.									
Prelim. Plan By Wei, J. 01/12									
Architect/Specialist	DATE	REVISION	BY	APP'D					

Fri Mar 30 16:44:11 2012

BRIDGE AND STRUCTURES OFFICE

JUGESH KAPUR — STATE OF WASHINGTON — 25400 — REGISTERED PROFESSIONAL ENGINEER

Washington State Department of Transportation

PRELIMINARY PLAN

BRIDGE SHEET NO. 4

SHEET OF SHEETS

4TH ST. NE
EXISTING ROADWAY

POINTS ALONG NORTH FACE OF CURB

POINT #	ELEVATION	S LINE STATION	OFFSET
11691	41.30	30+97.488	-39.83
11692	41.15	30+98.382	-37.23
11697	39.79	31+01.006	-9.98
11698	37.05	31+04.124	23.48
80837	36.48	31+04.609	30.66
80838	35.19	31+05.039	50.52
80845	34.58	31+04.882	63.16
80846	34.49	31+04.870	64.66
80850	34.16	31+04.465	76.55
80851	34.34	31+03.559	97.25
80898	34.61	31+03.406	101.58
80902	34.89	31+02.753	116.46
80903	35.76	31+01.104	138.04
80913	36.81	30+94.985	158.32

POINTS ALONG CENTERLINE

11703	41.42	30+78.166	-39.36
11701	38.83	30+88.913	0.80
11700	37.12	30+90.184	19.95
80782	36.75	30+90.175	28.84
80783	35.32	30+89.692	43.76
80784	35.29	30+89.034	43.73
80785	34.88	30+88.295	50.89
80786	34.94	30+90.483	50.87
80787	34.28	30+91.270	70.88
80788	34.23	30+86.729	70.96
80789	34.15	30+91.156	94.99
80790	34.05	30+86.631	96.98
80791	34.24	30+86.420	105.22
80792	34.57	30+85.723	114.35
80793	34.60	30+87.819	114.76
80794	34.86	30+86.481	120.40
80795	34.87	30+85.755	120.26
80802	34.90	30+86.263	120.67
80801	36.35	30+82.252	146.76
11306	38.92	30+61.189	182.90

POINTS ALONG SOUTH FACE OF CURB

30934	41.62	30+59.139	-30.34
30935	40.93	30+65.363	-22.54
30941	39.28	30+72.948	-4.45
80829	38.22	30+74.303	5.68
80825	35.92	30+74.469	29.67
80824	35.17	30+74.407	40.38
80820	33.93	30+74.458	65.56
80812	33.74	30+74.439	83.85
80811	33.73	30+74.406	97.08
80804	34.38	30+74.321	114.59
80800	35.47	30+72.138	134.38
80797	36.69	30+66.219	150.16

PUYALLUP RIVER TRAIL
EXISTING ROADWAY

POINTS ALONG NORTH EDGE

POINT #	ELEVATION	S LINE STATION	OFFSET
32434	42.60	31+40.487	-50.15
11670	42.33	31+33.915	-33.38
11671	41.97	31+30.165	-15.26
11676	41.79	31+28.715	1.05
11677	41.51	31+28.993	24.56
80866	41.28	31+29.383	25.37
80867	41.17	31+29.135	42.29
80870	41.08	31+29.121	56.76
80871	40.98	31+29.033	70.76
80874	40.92	31+28.923	87.01
80875	40.93	31+28.680	103.25
80878	40.41	31+28.150	119.60
80879	39.97	31+26.762	133.83
80882	39.54	31+24.422	147.89
80988	39.13	31+21.417	162.07
80989	38.76	31+17.588	175.73
80992	38.21	31+11.815	193.22

POINTS ALONG SOUTH EDGE

11663	42.80	31+32.816	-59.66
11685	42.62	31+24.231	-43.46
11681	42.30	31+19.279	-15.40
11679	41.81	31+18.985	9.43
11678	41.30	31+19.642	24.40
80865	41.27	31+19.446	25.25
80868	41.13	31+19.174	42.30
80869	41.06	31+19.130	56.60
80872	41.02	31+19.026	70.70
80873	40.99	31+18.897	86.92
80876	40.93	31+18.609	103.28
80877	40.40	31+18.090	119.03
80880	39.96	31+16.746	132.78
80881	39.54	31+14.501	146.41
80987	39.14	31+11.619	159.95
80990	38.72	31+07.972	173.00
80991	38.19	31+02.536	189.65

N. LEVEE RD. FROM SB SR 167
EXISTING ROADWAY

POINTS ALONG NORTH EDGE SHLD.

POINT #	ELEVATION	S LINE STATION	OFFSET
26574	36.04	35+52.597	-74.35
26567	35.59	35+36.182	-29.55
81000	35.45	35+27.798	-11.29
81003	35.37	35+15.556	10.04
81018	35.21	35+04.822	28.52
81025	35.10	34+93.048	46.14
81027	35.15	34+83.315	59.97
81030	35.28	34+78.070	68.65
81031	35.24	34+75.974	72.13
81035	34.95	34+73.891	86.06
81038	34.89	34+72.810	98.16
81041	34.75	34+73.139	113.97
11105	35.00	34+72.533	132.68

POINTS ALONG EDGE NORTH EDGE LANE

26575	36.28	35+47.780	-75.71
26566	35.96	35+29.804	-31.78
80999	35.78	35+22.082	-14.20
81017	35.44	35+00.714	26.64
81026	35.33	34+89.956	44.40
81028	35.30	34+81.241	58.84
81029	35.29	34+76.692	68.33
81032	35.28	34+75.384	71.91
81036	35.17	34+71.892	85.80
81039	35.16	34+69.761	98.02
81040	35.19	34+67.760	113.14
11106	35.39	34+65.327	131.42

POINTS ALONG ROADWAY CENTER

26576	36.41	35+37.176	-79.40
26565	36.04	35+17.880	-35.97
80998	35.85	35+09.966	-19.49
81005	35.77	34+99.162	2.00
81016	35.64	34+90.032	19.31
81042	35.50	34+77.932	41.23
81055	35.49	34+70.801	55.51
81062	35.49	34+66.477	65.89
81066	35.56	34+60.707	84.87
81067	35.57	34+58.708	93.56
81075	35.61	34+55.845	112.30
11067	35.83	34+53.589	131.21

POINTS ALONG EDGE SOUTH LANE

26577	36.33	35+25.759	-83.53
26564	35.81	35+06.294	-40.68
80997	35.59	34+98.588	-24.43
81006	35.53	34+87.908	-3.37
81015	35.43	34+79.301	13.68
81043	35.32	34+68.523	35.60
81054	35.33	34+61.785	51.09
81058	35.37	34+57.137	62.33
81063	35.35	34+50.015	82.87
81069	35.40	34+48.196	90.77
81074	35.52	34+43.884	111.22
11066	35.76	34+40.893	129.76
26578	36.10	35+22.596	-84.90

POINTS ALONG SOUTH EDGE SHLD.

26578	36.10	35+22.596	-84.90
26563	35.62	35+03.289	-41.85
80996	35.37	34+95.613	-26.00
81007	35.30	34+85.268	-4.52
81014	35.20	34+76.863	12.54
81044	35.07	34+66.151	34.32
81053	35.10	34+59.360	50.16
81056	35.14	34+54.593	61.44
81064	35.19	34+48.092	82.51
81068	35.18	34+45.950	90.06
81073	35.33	34+40.595	110.60
11092	35.42	34+37.365	129.68

C. S. 2707 ~ PROJ. NO. XL4105 ~ OLYMPIC REGION ~ SR 167 ~ MP 6.38 TO MP 6.52 ~ SB SR 167 PUYALLUP RIVER BRIDGE (NEW BRIDGE)

SR 167 FILE NO. 7032 SHEET 5 OF 5

Bridge Design Engr.	M:\PRELIMINARY PLANS\SR 167 Puyallup River Bridge\TABLE 2.MAN								
Supervisor						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Designed By						10	WASH.			
Checked By										
Detailed By Lemcke, D. 01/12						JOB NUMBER				
Bridge Projects Engr.										
Prelim. Plan By Wei, J. 01/12										
Architect/Specialist	DATE	REVISION	BY	APP'D						

Fri Mar 30 16:45:27 2012

BRIDGE AND STRUCTURES OFFICE

JUGESH KAPUR — STATE OF WASHINGTON — 25400 — REGISTERED PROFESSIONAL ENGINEER

Washington State Department of Transportation

PRELIMINARY PLAN

BRIDGE SHEET NO. 5

SHEET OF SHEETS

Appendix E
Commitment List

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Index #	Unique ID	Commitment Type	Topic	Requirement	Responsibility	Heading	Condition
NPDES SW-1	909	A	Clearing and Grading; Permit Coverage	1. Operators of the following construction activities are required to seek coverage under this permit: a. Clearing, grading and/or excavation which results in the disturbance of one or more acres, and discharges storm water to surface waters of the State; and clearing, grading and/or excavation on sites smaller than 1 acre which are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb 1 acre or more, and discharges storm water to surface waters of the State. i. This includes forest practices that are part of a construction activity that will result in the disturbance of one or more acres, and discharges to surface waters of the State (i.e., forest practices which are preparing a site for construction activities).	Design-Builder	Operators Required to Seek Coverage Under this General Permit Seek	S1.B.1.a
NPDES SW-2	910	B	Permit Coverage; SPCCP Requirements; TESCP Requirements; Water Quality	This permit also authorizes storm water discharges from support activities related to the permitted construction site (e.g., an onsite portable rock crusher, offsite equipment staging yards, material storage areas, borrow areas, etc.) provided: a. The support activity is directly related to the permitted construction site that is required to have a National Pollutant Discharge Elimination System (NPDES) Permit; and b. The support activity is not a commercial operation serving multiple unrelated construction projects, and does not operate beyond the completion of the construction activity; and c. Appropriate controls and measures are identified in the Stormwater Pollution Prevention Plan (SWPPP; or the temporary erosion and sediment control plan [TESCP] or Spill Prevention Control and Countermeasures Plan [SPCCP]) for the discharges from the support activity areas.	Design-Builder	Stormwater Associated with Construction Support Activity	S1.C.2
NPDES SW-3	819	A	Water Quality	The Design-Builder is responsible for ensuring that discharges shall not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR Part 131.36). Discharges that are not in compliance with these standards are not authorized.	Design-Builder	Compliance with Standards	S3.A
NPDES SW-4	820	A	Erosion Control; Submittal Requirements; TESCP Requirements	Prior to the discharge of storm water and non-storm water to waters of the State, the Design-Builder shall apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). This includes the preparation and implementation of an adequate Stormwater Pollution Prevention Plan (SWPPP; or TESCP or SPCCP), with all appropriate best management practices (BMPs) installed and maintained in accordance with the SWPPP (or TESCP or SPCCP) and the terms and conditions of this permit.	Design-Builder	Compliance with Standards	S3.B
NPDES SW-5	821	A	Water Quality	Compliance with water quality standards shall be presumed, unless discharge monitoring data or other site specific information demonstrates that a discharge causes or contributes to a violation of water quality standards, when the Design-Builder is: 1. In full compliance with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions; and 2. Fully implementing storm water BMPs contained in storm water management manuals published or approved by Ecology, or BMPs that are demonstrably equivalent to BMPs contained in storm water technical manuals published or approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs for onsite pollution control.	Design-Builder	Compliance with Standards	S3.C
NPDES SW-6	822	A	Ground Water Quality	For sites that discharge to both surface water and ground water, all ground water discharges are also subject to the terms and conditions of this permit. If the Design-Builder plans to discharge to ground water through an injection well, the Design-Builder shall comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.	Design-Builder	Compliance with Standards	S3.D
NPDES SW-7	823	A	BMP Inspection and Maintenance; BMP Installation; Monitoring Requirements; Recordkeeping; SPCCP Requirements; TESCP Requirements	The Design-Builder shall maintain a site log book that contains a record of the implementation of the SWPPP (or TESCP or SPCCP) and other permit requirements including the installation and maintenance of BMPs, site inspections, and storm water monitoring.	Design-Builder	Site Log Book	S4.A

NPDES SW-8	824	B	BMP Inspection and Maintenance; Recordkeeping; SPCCP Requirements; TESCP Requirements	The Design-Builder's site inspections shall include all areas disturbed by construction activities, all BMPs, and all storm water discharge points. The Design-Builder shall be visually examine storm water for the presence of suspended sediment, turbidity, discoloration, and oil sheen. Inspectors shall evaluate the effectiveness of BMPs and determine if it is necessary to install, maintain, or repair BMPs to improve the quality of storm water discharges. Based on the results of the inspection, the Design-Builder shall correct the problems identified as follows: (a) Review the SWPPP (or TESCP) for compliance with Condition S9 and make appropriate revisions within 7 days of the inspection; and (b) Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but no later than 10 days of the inspection; and document BMP implementation and maintenance in the site log book. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by the Design-Builder within the initial 10-day response period.	Design-Builder	Site Inspections	S4.B.1
NPDES SW-9	825	A	BMP Inspection and Maintenance; SPCCP Requirements; TESCP Requirements; Timing Requirements	Site inspections shall be conducted by the Design-Builder at least once every calendar week and within 24 hours of any discharge from the site. The inspection frequency for temporarily stabilized, inactive sites may be reduced to once every calendar month, at the sole discretion of WSDOT.	Design-Builder	Site Inspections	S4.B.2
NPDES SW-10	826	A	BMP Inspection and Maintenance; Erosion Control	The Design-Builder shall ensure site inspections are conducted by a person who is knowledgeable in the principles and practices of erosion and sediment control. The inspector shall have the skills to: a. Assess the site conditions and construction activities that could impact the quality of storm water, and b. Assess the effectiveness of erosion and sediment control measures used to control the quality of storm water discharges.	Design-Builder	Site Inspections	S4.B.3
NPDES SW-11	827	A	BMP Inspection and Maintenance; Erosion Control; TESCP Requirements	Construction sites 1 acre or larger that discharge storm water to surface waters of the State, shall have site inspections conducted by a Certified Erosion and Sediment Control Lead (CESCL). The Design-Builder shall identify a CESCL in the SWPPP (or TESCP) who will be present onsite or on-call at all times. Certification shall be obtained through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (refer to BMP C160 in the Manual).	Design-Builder	Site Inspections	S4.B.4
NPDES SW-12	828	A	BMP Inspection and Maintenance; Erosion Control; Monitoring Requirements; SPCCP Requirements; Submittal Requirements; TESCP Requirements	The Design-Builder's inspector shall summarize the results of each inspection in an inspection report or checklist and be entered into, or attached to, the site log book. At a minimum, each inspection report or checklist shall include: a. Inspection date and time. B. Weather information; general conditions during inspection and approximate amount of precipitation since the last inspection, and within the last 24 hours. C. A summary or list of all BMPs that have been implemented, including observations of all erosion/sediment control structures or practices. D. The following shall be noted: i. locations of BMPs inspected, ii. Locations of BMPs that need maintenance, iii. The reason maintenance is needed, iv. Locations of BMPs that failed to operate as designed or intended, and v. locations where additional or different BMPs are needed, and the reason(s) why. E. A description of storm water discharged from the site. The inspector shall note the presence of suspended sediment, turbid water, discoloration, and/or oil sheen, as applicable.	Design-Builder	Site Inspections	S4.B.5
NPDES SW-13	829	A	Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	If construction activity will involve the disturbance of 5 acres or more, the Design-Builder shall conduct turbidity sampling per Condition S4.C.	Design-Builder	Sampling Methods/Effective Dates	S4.C.1.a
NPDES SW-14	830	A	Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	Sampling Frequency a. Sampling shall be conducted by the Design-Builder at least once every calendar week, when there is a discharge of storm water (or authorized non-storm water) from the site. Samples shall be representative of the flow and characteristics of the discharge. b. When there is no discharge during a calendar week, sampling is not required. c. Sampling is not required outside of normal working hours or during unsafe conditions. If the Design-Builder is unable to sample during a monitoring period, the Discharge Monitoring Report (DMR) shall include a brief explanation.	Design-Builder	Sampling Frequency	S4.C.2
NPDES SW-15	831	A	Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	Sampling Locations a. Sampling is required at all discharge points where storm water (or authorized nonstorm water) is discharged offsite. b. The Design-Builder shall identify all sampling point(s) on the SWPPP (or TESCP or Water Quality Monitoring Plan) site map and clearly mark sampling locations in the field with a flag, tape, stake or other visible marker.	Design-Builder	Sampling Locations	S4.C.3

NPDES SW-16	832	A	Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	Sampling and Analysis Methods a. The Design-Builder shall perform Turbidity analysis with a calibrated turbidity meter (turbidimeter), either onsite or at an accredited lab. The results shall be recorded in the site log book in Nephelometric Turbidity Units (NTU).	Design-Builder	Sampling and Analysis Methods	S4.C.4
NPDES SW-17	833	A	Notification Requirements; Sampling; TESCP Requirements; Water Quality	Turbidity Benchmark Values: The benchmark value for turbidity is 25 NTU (Nephelometric Turbidity Units); Turbidity 26 – 249 NTU: If discharge turbidity is greater than 25 NTU, but less than 250 NTU, the Design-Builder's CESCL shall: (1) Review the SWPPP (or TESCP or Water Quality Monitoring Plan) for compliance with Condition S9 and make appropriate revisions within 7 days of the discharge that exceeded the benchmark; and (2) Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but within 10 days of the discharge that exceeded the benchmark; and (3) Document BMP implementation and maintenance in the site log book. Turbidity 250 NTU or greater: If discharge turbidity is greater than or equal to 250 NTU, the Design-Builder's CESCL shall: (1) Notify WSDOT so WSDOT can notify Ecology by phone in accordance with Condition S5.A.; and (2) Review the SWPPP (or TESCP or Water Quality Monitoring Plan) for compliance with Condition S9 and make appropriate revisions within 7 days of the discharge that exceeded the benchmark; and (3) Fully implement and maintain appropriate source control and/or treatment BMPs as (4) Document BMP implementation and maintenance in the site log book; and (5) Continue to sample discharges daily until: (a) turbidity is 25 NTU (or lower); or (b) the CESCL has demonstrated compliance with the water quality standard for turbidity: (i) no more than 5 NTU over background turbidity, if background is less than 50 NTU, or (ii) no more than 10% over background turbidity, if background is 50 NTU or greater; or (iii) the discharge stops or is eliminated.	Design-Builder	Turbidity/Transparency Benchmark Values	S4.C.5
NPDES SW-18	834	A	Concrete Work; Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils Beginning October 1, 2006, if construction activity will result in the disturbance of 1 acre or more, and involves significant concrete work or the use of engineered soils, and storm water from the affected area drains to surface waters of the State or to a storm sewer system that drains to surface waters of the State, the Design-Builder shall conduct pH monitoring as set forth in provisions S4.D.1 through S4.D.6 of this permit.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils	S4.D
NPDES SW-19	835	A	Concrete Work; Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	1. For sites with significant concrete work, the Design-Builder shall ensure the pH monitoring period commences when the concrete is first exposed to precipitation and shall continue weekly until storm water pH is 8.5 or less. a. “Significant concrete work” means greater than 1000 cubic yards poured concrete or recycled concrete.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils	S4.D.1
NPDES SW-20	836	A	Concrete Work; Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	2. For sites with engineered soils, the Design-Builder shall ensure the pH monitoring period commences when the soil amendments are first exposed to precipitation and continues until the area of engineered soils is fully stabilized. “Engineered soils” means soil amendments including, but not limited, to Portland cement treated base (CTB), cement kiln dust (CKD), or fly ash.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils	S4.D.2
NPDES SW-21	837	A	Concrete Work; Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	3. During the pH monitoring period, the Design-Builder shall obtain a representative sample of storm water and conduct pH analysis at least once per week.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils	S4.D.3
NPDES SW-22	838	A	Concrete Work; Monitoring Requirements; Sampling; TESCP Requirements; Visual Quality	4. The Design-Builder shall monitor pH in the sediment trap/pond(s) or other locations that receive storm water runoff from the area of significant concrete work or engineered soils prior to discharge to surface waters.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils	S4.D.4

NPDES SW-23	839	A	Concrete Work; Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	5. The benchmark value for pH is 8.5 standard units. Any time sampling indicates that pH is 8.5 or greater, the Design-Builder shall: a. Prevent the high pH water (8.5 or above) from entering storm sewer systems or surface waters; and b. If necessary, adjust or neutralize the high pH water using an appropriate treatment BMP such as CO2 sparging or dry ice. The Design-Builder shall obtain written approval from Ecology prior to using any form of chemical treatment other than CO2 sparging or dry ice.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils	S4.D.5
NPDES SW-24	840	A	Concrete Work; Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	6. The Design-Builder shall perform pH analysis onsite with a calibrated pH meter, pH test kit, or wide range pH indicator paper. The Design-Builder shall record pH monitoring results in the site log book.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils	S4.D.6
NPDES SW-25	841	A	Notification Requirements; Reporting Requirements; Sampling; TESCP Requirements; Water Quality	A. High Turbidity Phone Reporting Any time sampling performed in accordance with Special Condition S4.C indicates turbidity is 250 NTU or greater the Design-Builder shall immediately notify WSDOT and the appropriate Ecology regional office by phone within 24 hours of analysis.	WSDOT/Design-Builder	High Turbidity Phone Reporting	S5.A
NPDES SW-26	842	B	Monitoring Requirements; Recordkeeping; Reporting Requirements; Sampling; Submittal Requirements; TESCP Requirements; Water Quality	Discharge Monitoring Reports 1. When the Design-Builder conducts water quality sampling in accordance with Special Conditions S.4.C (Turbidity/Transparency), S4.D (pH) and/or S8 [303(d)/TMDL sampling] the Design-Builder shall submit the results to Ecology.	WSDOT/Design-Builder	Discharge Monitoring Reports	S5.B.1
NPDES SW-27	843	A	Monitoring Requirements; Reporting Requirements; Sampling; Submittal Requirements; TESCP Requirements	The Design-Builder shall submit DMR forms electronically or by mail to Ecology within 15 days following the end of each month and provide a copy to WSDOT for their records. If there was no discharge during a given monitoring period, the Design-Builder shall submit the form as required with the words "no discharge" entered in place of the monitoring results. If the Design-Builder is unable to submit discharge monitoring reports electronically, the Design-Builder may mail reports to the address listed below: Department of Ecology Water Quality Program -Construction Stormwater PO Box 47696 Olympia, Washington 98504-7696 The Design-Builder must submit monitoring data using Ecology's WebDMR program. If the Design-Builder obtains a waiver not to use WebDMR, they must use the forms provided to them by Ecology; submittals must be mailed to Ecology. The Design-Builder shall submit DMR forms to be received by Ecology within 15 days following the end of each month. If there was no discharge during a given monitoring period, the Design-Builder must submit a DMR as required with "no discharge" entered in place of the monitoring results.	Environmental (WSDOT)	Discharge Monitoring Reports	S5.B.2
NPDES SW-28	845	A	BMP Inspection and Maintenance; Monitoring Requirements; Recordkeeping	Records Retention The Design-Builder shall retain records of all monitoring information (site log book, sampling results, inspection reports/checklists, etc.), Stormwater Pollution Prevention Plan (or TESCP or SPCCP), and any other documentation of compliance with permit requirements during the life of the construction project. This information shall be retained by the Design-Builder for a minimum of 3 years following the termination of permit coverage. Such information shall include all calibration and maintenance records, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.	WSDOT/Design-Builder	Records Retention	S5.C
NPDES SW-29	846	A	Monitoring Requirements; Recordkeeping; Sampling; TESCP Requirements; Water Quality	Recording of Results For each measurement or sample taken, the Design-Builder shall record the following information: 1. Date, place, method, and time of sampling or measurement; 2. The individual who performed the sampling or measurement; 3. The dates the analyses were performed; 4. The individual who performed the analyses; 5. The analytical techniques or methods used; and 6. The results of all analyses.	Design-Builder	Recording of Results	S5.D
NPDES SW-30	847	A	Monitoring Requirements; Recordkeeping; Reporting Requirements; Sampling; TESCP Requirements; Water Quality	Additional Monitoring by the Design-Builder If the Design-Builder monitors any pollutant more frequently than required by this permit using test procedures specified by Condition S4 of this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report.	Design-Builder	Additional Monitoring by the Permittee	S5.E
NPDES SW-31	848	A	Monitoring Requirements; Notification Requirements; Sampling; Submittal Requirements; TESCP Requirements	In the event the Design-Builder is unable to comply with any of the terms and conditions of this permit that may cause a threat to human health or the environment, the Design-Builder shall: 1. Immediately notify WSDOT and Ecology of the failure to comply. 2. Immediately take action to prevent the discharge/pollution, or otherwise stop or correct the noncompliance, and, if applicable, repeat sampling and analysis of any noncompliance immediately and submit the results to WSDOT and Ecology within five (5) days after becoming aware of the violation.	WSDOT/Design-Builder	Noncompliance Notification	S5.F

NPDES SW-32	849	A	Recordkeeping	Access to Plans and Records 1. The Design-Builder and the Permittee (WSDOT) shall retain the following permit documentation (plans and records) onsite, or within reasonable access to the site, for use by the operator; or onsite review by Ecology or the local jurisdiction: a. General Permit; b. Permit Coverage Letter; c. SWPPP (or TESCP or SPCCP); and d. Site Log Book.	WSDOT/Design-Builder	Access to Plans and Records	S5.G.1
NPDES SW-33	1442	A	Recordkeeping; Submittal Requirements	Upon receiving a written request from the public for the Design-Builders plans and records, the Design Builder shall either: i. Provide a copy of the plans and records to the requestor within 14 days of receipt of the written request; or ii. Notify the requestor within 10 days of receipt of the written request of the location and times within normal business hours when the plans and records may be viewed, and provide access to the plans and records within 14 days of receipt of the written request; or iii. Within 14 days of receipt of the written request, the Design-Builder may submit a copy of the plans and records to Ecology for viewing and/or copying by the requestor at an Ecology office, or a mutually agreed upon location. If plans and records are viewed and/or copied at a location other than at an Ecology office, the Design-Builder will provide reasonable access to copying services for which a reasonable fee may be charged. The Permittee shall notify the requestor within 10 days of receipt of the request where the plans and records may be viewed and/or copied.	WSDOT/Design-Builder	Access to Plans and Records	SS.G.2
NPDES SW-34	850	A	Demolition Activities; Drainage Facilities; Hazardous Materials; Solid and Liquid Waste Disposal	Solid and liquid wastes generated by construction activity such as demolition debris, construction materials, contaminated materials, and waste materials from maintenance activities, including liquids and solids from cleaning catch basins and other storm water facilities, shall be handled and disposed of by the Design-Builder in accordance with: 1. Special Condition S3, Compliance with Standards, and 2. WAC 173-216-110, and other applicable regulations.	Design-Builder	Solid and Liquid Waste Disposal	S7
NPDES SW-35	851	B	Monitoring Requirements; Permit Coverage; Sampling; Water Quality	Sampling and Numeric Effluent Limitations For Discharges to 303(d)-listed Waterbodies 1. If the Design-Builder discharges to water bodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH, or phosphorus, the Design-Builder shall conduct water quality sampling according to the requirements of this section. 2. All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current listing by Ecology of impaired waters that exists on January 1, 2011 or the date when the operator's complete permit application is received by Ecology, whichever is later.	Design-Builder	Sampling and Numeric Effluent Limitations For Discharges to 303(d)-Listed Waterbodies	S8.A.1
NPDES SW-36	852	A	Monitoring Requirements; Sampling; TESCP Requirements; Water Quality	If there are discharges to waterbodies on the 303(d) list for turbidity, fine sediment, or phosphorus the Design-Builder shall conduct turbidity sampling at the following locations to evaluate compliance with the water quality standard for turbidity: a. Background turbidity shall be measured in the 303(d)-listed receiving water immediately upstream (upgradient) or outside the area of influence of the discharge; and b. Discharge turbidity shall be measured at the point of discharge into the 303(d) listed receiving waterbody, inside the area of influence of the discharge; or Alternatively, discharge turbidity may be measured at the point where the discharge leaves the construction site, rather than in the receiving waterbody.	Design-Builder	Discharges to 303(d)-Listed Waterbodies (Turbidity, Fine Sediment, or Phosphorus)	S8.B.1
NPDES SW-37	853	B	Sampling; TESCP Requirements; Water Quality	If the Design-Builder discharges to segments of water bodies on the 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus must conduct turbidity sampling in accordance with Special Condition S4.C.2 and comply with either of the numeric effluent limits noted in Table 5. As an alternative to the 25 NTU effluent limit noted in Table 5 (applied at the point where storm water [or authorized non-storm water] is discharged offsite), the Design-Builder may choose to comply with the surface water quality standard for turbidity. The standard is: no more than 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or more than a 10% increase in turbidity when the background turbidity is more than 50 NTU.	Design-Builder	Discharges to 303(d)-Listed Waterbodies (Turbidity, Fine Sediment, or Phosphorus)	S8.B.2
NPDES SW-38	854	B	BMP Inspection and Maintenance; Monitoring Requirements; Notification Requirements; Sampling; TESCP Requirements; Water Quality	Discharges that exceed the numeric effluent limit for turbidity constitute a violation of this permit. If a discharge exceeds the numeric effluent limit the Design-Builder shall sample discharges daily until the violation is corrected, notify WSDOT immediately, and comply with the non-compliance notification requirements in Special Condition S5.F.	Design-Builder	Discharges to 303(d)-Listed Waterbodies (Turbidity, Fine Sediment, or Phosphorus)	S8.B.3
NPDES SW-39	1443	A	Monitoring Requirements; Sampling	Discharges to waterbodies on the 303(d) list for High pH 1) Permittees that discharge to waterbodies on the 303(d) list for high pH shall conduct sampling at one of the following locations to evaluate compliance with the water quality standard for pH (in the range of 6.5-8.5). A. pH shall be measured at the point of discharge into the 303(d) listed waterbody, inside the area of influence of the discharge, or B. Alternatively, pH may be measured at the point where the discharge leaves the construction site. rather than in the receiving water.	Design-Builder	Discharges to waterbodies on the 303(d) list for high pH	S8.C.1
NPDES SW-40	1444	A	Monitoring Requirements; Sampling	2. Based on the sampling set forth above, if the pH exceeds the water quality standard for pH (in the range of 6.5 and 8.5), all future discharges shall comply with a numeric effluent limit that is equal to the water quality standard for pH.	Design Builder	Discharges to waterbodies on the 303(d) list for high pH	S8.C.2

NPDES SW-41	1445	B	Monitoring Requirements; Notification Requirements: Sampling	3. Discharges that exceed the numeric effluent limit for pH (outside the range of 6.5-8.5 su) constitute a violation of the permit. If a discharge exceeds the numeric effluent limit the Design-Builder shall sample discharges daily until the violation is corrected, notify WSDOT immediately, and comply with the non-compliance notification requirements in Special Condition S5.F.	WSDOT/Design-Builder	Discharges to waterbodies on the 303(d) list for high pH.	S8.C.3
NPDES SW-42	855	A	Erosion Control; SPCCP Requirements; Submittal Requirements; TESCP Requirements	An adequate SWPPP (or TESCP or SPCCP) for construction activity shall be prepared and implemented by the Design-Builder in accordance with the requirements of this permit beginning with initial soil disturbance and until final stabilization.	Design-Builder	Stormwater Pollution Prevention Plan	S9
NPDES SW-43	856	A	SPCCP Requirements; Submittal Requirements; TESCP Requirements	The Design-Builder's SWPPP (or TESCP or SPCCP) shall meet the following objectives: 1. To implement Best Management Practices (BMPs) to prevent erosion and sedimentation, and to identify, reduce, eliminate or prevent storm water contamination and water pollution from construction activity. 2. To prevent violations of surface water quality, ground water quality, or sediment management standards. 3. To control peak volumetric flow rates and velocities of storm water discharges.	Design-Builder	The SWPPP shall meet the following objectives	S9.A
NPDES SW-44	857	A	TESCP Requirements	The Design-Builder's SWPPP (or TESCP) shall include a narrative and drawings. All BMPs shall be clearly referenced in the narrative and marked on the drawings. The Design-Builder's SWPPP (or TESCP) narrative shall include documentation to explain and justify the pollution prevention decisions made for the project. Documentation shall include: a. Information about existing site conditions (topography, drainage, soils, vegetation, etc.); b. Potential erosion problem areas; c. The 12 elements of a SWPPP in S9.D.1-12, including BMPs used to address each element; d. Construction phasing/sequence and general BMP implementation schedule; e. The actions to be taken if BMP performance goals are not achieved; and f. Engineering calculations for ponds and any other designed structures.	Design-Builder	General Requirements	S9.B.1
NPDES SW-45	858	A	BMP Inspection and Maintenance; Monitoring Requirements; SPCCP Requirements; TESCP Requirements	The Design-Builder shall modify the SWPPP (or TESCP or SPCCP) if, during inspections or investigations conducted by the owner/operator, or the applicable local or state regulatory authority, it is determined that the SWPPP (or TESCP or SPCCP) is, or would be, ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the site. The Design-Builder shall take the following actions: a. Review the SWPPP (or TESCP) for compliance with Condition S9 and make appropriate revisions within 7 days of the inspection or investigation; b. Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but no later than 10 days from the inspection or investigation; and c. Document BMP implementation and maintenance in the site log book.	Design-Builder	General Requirements	S9.B.2
NPDES SW-46	859	A	Recordkeeping; SPCCP Requirements; TESCP Requirements	The Design-Builder shall modify the SWPPP (or TESCP or SPCCP) whenever there is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.	Design-Builder	General Requirements	S9.B.3
NPDES SW-47	860	A	SPCCP Requirements; TESCP Requirements	The Design-Builder shall include each of the 12 elements in S9.D.1-12 in the narrative of the SWPPP (or TESCP or SPCCP) and ensure that they are implemented unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP (or TESCP or SPCCP).	Design-Builder	SWPPP -Narrative Contents and Requirements	S9.D
NPDES SW-48	861	B	BMP Installation; Clearing and Grading; Delineation and Fencing; TESCP Requirements	1. Preserve Vegetation/Mark Clearing Limits a. Prior to beginning land disturbing activities, including clearing and grading, the Design-Builder shall clearly mark all clearing limits, environmentally sensitive areas and their buffers, and trees that are to be preserved within the construction area with high-visibility construction fencing. b. The Design-Builder shall retain the duff layer, native top soil, and natural vegetation in an undisturbed state to the maximum degree practicable.	Design-Builder	Preserve Vegetation/Mark Clearing Limits	S9.D.1
NPDES SW-49	862	A	Access Road Provisions; Clearing and Grading; Fugitive Dust Control; TESCP Requirements	a. The Design-Builder shall limit construction vehicle access and exit to one route, if possible.	Design-Builder	Establish Construction Access	S9.D.2.a
NPDES SW-50	863	A	Access Road Provisions; BMP Installation; Fugitive Dust Control; Stabilization of Entry/Exit Points; TESCP Requirements	b. The Design-Builder shall stabilize access points with a pad of quarry spalls, crushed rock, or other equivalent BMP, to minimize the tracking of sediment onto public roads.	Design-Builder	Establish Construction Access	S9.D.2.b

NPDES SW-51	864	A	Access Road Provisions; BMP Installation; Fugitive Dust Control; Stabilization of Entry/Exit Points; TESCP Requirements	c. The Design-Builder shall ensure wheel wash or tire baths are located onsite, if the stabilized construction entrance is not effective in preventing sediment from being tracked onto public roads.	Design-Builder	Establish Construction Access	S9.D.2.c
NPDES SW-52	865	A	Fugitive Dust Control; TESCP Requirements	d. If sediment is tracked off site, the Design-Builder shall ensure public roads are cleaned thoroughly at the end of each day, or more frequently during wet weather. Sediment shall be removed from roads by shoveling or pickup sweeping and shall be transported to a controlled sediment disposal area.	Design-Builder	Establish Construction Access	S9.D.2.d
NPDES SW-53	866	A	Fugitive Dust Control; TESCP Requirements	e. Street washing is allowed only after sediment is removed in accordance with S9.D.2.d. The Design-Builder shall ensure street wash wastewater is controlled by pumping back onsite or otherwise be prevented from discharging into systems tributary to waters of the State.	Design-Builder	Establish Construction Access	S9.D.2.e
NPDES SW-54	867	A	Drainage Facilities; Erosion Control; TESCP Requirements	Control Flow Rates a. The Design-Builder shall ensure properties and waterways downstream from development sites are protected from erosion due to increases in the velocity and peak volumetric flow rate of storm water runoff from the project site, as required by local plan approval authority.	Design-Builder	Control Flow Rates	S9.D.3.a
NPDES SW-55	868	A	BMP Installation; Clearing and Grading; Drainage Facilities; TESCP Requirements; Timing Requirements	b. Where necessary to comply with S9.D.3.a. of the NPDES, storm water retention or detention facilities shall be constructed by the Design-Builder as one of the first steps in grading. The Design-Builder shall ensure detention facilities are functional prior to construction of site improvements (e.g., impervious surfaces).	Design-Builder	Control Flow Rates	S9.D.3.b
NPDES SW-56	869	A	BMP Inspection and Maintenance; Drainage Facilities; TESCP Requirements	c. If permanent infiltration ponds are used for flow control during construction, the Design-Builder shall ensure these facilities are protected from siltation during the construction phase.	Design-Builder	Control Flow Rates	S9.D.3.c
NPDES SW-57	870	A	BMP Installation; Drainage Facilities; TESCP Requirements	Install Sediment Controls a. The Design-Builder shall ensure storm water runoff from disturbed areas will pass through a sediment pond or other appropriate sediment removal BMP, prior to leaving a construction site. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but shall meet the flow control performance standard of S9.D.3.a of the NPDES.	Design-Builder	Install Sediment Controls	S9.D.4.a
NPDES SW-58	871	A	BMP Installation; Clearing and Grading; Drainage Facilities; TESCP Requirements; Timing Requirements	b. The Design-Builder shall construct sediment control BMPs (sediment ponds, traps, filters, etc.) as one of the first steps in grading. These BMPs shall be functional before other land disturbing activities take place.	Design-Builder	Install Sediment Controls	S9.D.4.b
NPDES SW-59	872	A	BMP Installation; Fish Passage; Fish, Aquatic Habitat, and T&E Fish Species; TESCP Requirements	c. BMPs intended to trap sediment onsite shall be located in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.	Design-Builder	Install Sediment Controls	S9.D.4.c
NPDES SW-60	873	A	BMP Installation; Clearing and Grading; Erosion Control; Fugitive Dust Control; TESCP Requirements	Stabilize Soils a. The Design-Builder shall stabilize exposed and unworked soils by application of effective BMPs that prevent erosion. Applicable BMPs include, but are not limited to: temporary and permanent seeding, sodding, mulching, plastic covering, erosion control fabrics and matting, soil application of polyacrylamide (PAM), the early application of gravel base on areas to be paved, and dust control.	Design-Builder	Stabilize Soils	S9.D.5.a
NPDES SW-61	874	A	BMP Inspection and Maintenance; Clearing and Grading; Erosion Control; TESCP Requirements; Timing Requirements	b. The Design-Builder shall ensure no soils remain exposed and unworked for more than the time periods set forth below to prevent erosion: During the dry season (May 1 -Sept. 30): 7 days During the wet season (October 1 -April 30): 2 days*	Design-Builder	Stabilize Soils	S9.D.5.b

NPDES SW-62	875	A	BMP Inspection and Maintenance; Erosion Control; TESCP Requirements; Timing Requirements	c. The Design-Builder shall ensure soils are stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.	Design-Builder	Stabilize Soils	S9.D.5.c
NPDES SW-63	876	A	BMP Inspection and Maintenance; Clearing and Grading; Erosion Control; TESCP Requirements	d. The Design-Builder shall ensure soil stockpiles are stabilized from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.	Design-Builder	Stabilize Soils	S9.D.5.d
NPDES SW-64	877	A	Clearing and Grading; Erosion Control; Roadway Design; TESCP Requirements	Protect Slopes a. The Design-Builder shall design and construct cut and fill slopes in a manner that will minimize erosion. Applicable practices include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, and roughening slope surfaces (e.g., track walking).	Design-Builder	Protect Slopes	S9.D.6.a
NPDES SW-65	878	A	Drainage Facilities; TESCP Requirements	b. The Design-Builder shall divert offsite storm water (run-on) or ground water away from slopes and disturbed areas with interceptor dikes, pipes, and/or swales. The Design-Builder shall manage offsite storm water separately from storm water generated on the site.	Design-Builder	Protect Slopes	S9.D.6.b
NPDES SW-66	879	A	Drainage Facilities; Erosion Control; TESCP Requirements	c. At the top of slopes, the Design-Builder shall collect drainage in pipe slope drains or protected channels to prevent erosion. i. West of the Cascade Mountains Crest: Temporary pipe slope drains shall handle the peak 10 minute velocity of flow from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis shall use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis shall use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area."	Design-Builder	Protect Slopes	S9.D.6.c
NPDES SW-67	880	A	Clearing and Grading; TESCP Requirements	d. The Design-Builder shall place excavated material on the uphill side of trenches, consistent with safety and space considerations.	Design-Builder	Protect Slopes	S9.D.6.d
NPDES SW-68	881	A	BMP Inspection and Maintenance; BMP Installation; Erosion Control; TESCP Requirements	e. The Design-Builder shall place check dams at regular intervals within constructed channels that are cut down a slope.	Design-Builder	Protect Slopes	S9.D.6.e
NPDES SW-69	882	A	BMP Inspection and Maintenance; BMP Installation; Drainage Facilities; TESCP Requirements	Protect Drain Inlets a. The Design-Builder shall protect all storm drain inlets made operable during construction so that storm water runoff does not enter the conveyance system without first being filtered or treated to remove sediment.	Design-Builder	Protect Drain Inlets	S9.D.7.a
NPDES SW-70	883	A	BMP Inspection and Maintenance; TESCP Requirements	b. Inlet protection devices shall be cleaned or removed and replaced by the Design-Builder when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).	Design-Builder	Protect Drain Inlets	S9.D.7.b
NPDES SW-71	884	A	Drainage Facilities; Erosion Control; TESCP Requirements	Stabilize Channels and Outlets a. The Design-Builder shall design, construct, and stabilize all temporary onsite conveyance channels to prevent erosion from the following expected peak flows: i. West of the Cascade Mountains Crest: Channels shall handle the peak 10 minute velocity of flow from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate indicated by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis shall use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis shall use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area."	Design-Builder	Stabilize Channels and Outlets	S9.D.8.a
NPDES SW-72	885	A	Drainage Facilities; Erosion Control; TESCP Requirements	b. Stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches shall be provided by the Design-Builder at the outlets of all conveyance systems.	Design-Builder	Stabilize Channels and Outlets	S9.D.8.b

NPDES SW-73	886	A	Demolition Activities; Hazardous Materials; Solid and Liquid Waste Disposal; SPCCP Requirements	9. Control Pollutants a. All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of by the Design-Builder in a manner that does not cause contamination of storm water.	Design-Builder	Control Pollutants	S9.D.9.a
NPDES SW-74	887	B	BMP Inspection and Maintenance; BMP Installation; Hazardous Materials; SPCCP Requirements	b. The Design-Builder shall provide cover, containment, and vandalism protection for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment. onsite fueling tanks shall include secondary containment. Secondary containment means placing tanks or containers within an impervious structure capable of containing 110% of the volume contained in the largest tank within the containment structure. Double-walled tanks do not require additional secondary containment.	Design-Builder	Control Pollutants	S9.D.9.b
NPDES SW-75	888	A	BMP Inspection and Maintenance; Hazardous Materials; SPCCP Requirements	c. The Design-Builder shall use spill prevention and control measures when maintaining, fueling, and repairing heavy equipment and vehicles. The Design-Builder shall clean contaminated surfaces immediately following any spill incident.	Design-Builder	Control Pollutants	S9.D.9.c
NPDES SW-76	889	B	BMP Inspection and Maintenance; BMP Installation; Solid and Liquid Waste Disposal; TESCP Requirements	d. The Design-Builder shall discharge wheel wash or tire bath wastewater to a separate onsite treatment system that prevents discharge to surface water, such as a closed-loop recirculation or upland land application, or to the sanitary sewer with local sewer district approval.	Design-Builder	Control Pollutants	S9.D.9.d
NPDES SW-77	890	A	Fertilizer and Pesticide Application; Hazardous Materials; Plant Establishment; Planting Provisions	e. The Design-Builder shall ensure that application of fertilizers and pesticides, is conducted in a manner and at application rates that will not result in loss of chemical to storm water runoff. The Design-Builder shall follow manufacturers' label requirements for application rates and procedures.	Design-Builder	Control Pollutants	S9.D.9.e
NPDES SW-78	891	B	BMP Installation; Concrete Work; TESCP Requirements; Water Quality	f. The Design-Builder shall use BMPs to prevent or treat contamination of storm water runoff by pH modifying sources. These sources include, but are not limited to: bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete pumping and mixer washout waters. (Also refer to the definition for "concrete wastewater" in Appendix A - Definitions). The Design-Builder shall adjust the pH of storm water if necessary to prevent violations of water quality standards.	Design-Builder	Control Pollutants	S9.D.9.f
NPDES SW-79	892	A	BMP Installation; Concrete Work; Notification Requirements; TESCP Requirements; Water Quality	g. The Design-Builder shall obtain written approval from Ecology prior to using chemical treatment, other than CO2 or dry ice to adjust pH.	WSDOT/Design-Builder	Control Pollutants	S9.D.9.g
NPDES SW-80	893	A	BMP Inspection and Maintenance; Dewatering; Drainage Facilities; SPCCP Requirements; TESCP Requirements	10. Control De-Watering a. The Design-Builder shall discharge foundation, vault, and trench de-watering water, which have similar characteristics to storm water runoff at the site, into a controlled conveyance system prior to discharge to a sediment trap or sediment pond.	Design-Builder	Control De-Watering	S9.D.10.a
NPDES SW-81	894	A	Dewatering; Drainage Facilities; TESCP Requirements	b. Clean, non-turbid de-watering water, such as well-point ground water, can be discharged to systems tributary to, or directly into surface waters of the State, as specified in S9.D.8, provided the de-watering flow does not cause erosion or flooding of receiving waters. The Design-Builder shall not route clean de-watering water through storm water sediment ponds.	Design-Builder	Control De-Watering	S9.D.10.b
NPDES SW-82	895	A	Dewatering; Solid and Liquid Waste Disposal; SPCCP Requirements; TESCP Requirements	c. Other de-watering disposal options may include: i. infiltration ii. Transport offsite in a vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters, iii. Ecology-approved onsite chemical treatment or other suitable treatment technologies, iv. Sanitary sewer discharge with local sewer district approval, if there is no other option, or v. use of a sedimentation bag with outfall to a ditch or swale for small volumes of localized dewatering.	Design-Builder	Control De-Watering	S9.D.10.c
NPDES SW-83	896	A	Dewatering; Drainage Facilities; Solid and Liquid Waste Disposal; SPCCP Requirements; TESCP Requirements	d. The Design-Builder shall handle highly turbid or contaminated dewatering water separately from storm water.	Design-Builder	Control De-Watering	S9.D.10.d

NPDES SW-84	897	A	BMP Inspection and Maintenance; Erosion Control; TESCP Requirements	11. Maintain BMPs a. All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired by the Design-Builder as needed to assure continued performance of their intended function in accordance with BMP specifications.	Design-Builder	Maintain BMPs	S9.D.11.a
NPDES SW-85	898	A	BMP Removal; TESCP Requirements; Timing Requirements	b. All temporary erosion and sediment control BMPs shall be removed by the Design-Builder within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.	Design-Builder	Maintain BMPs	S9.D.11.b
NPDES SW-86	899	A	Clearing and Grading; Erosion Control; Roadway Design; TESCP Requirements	Manage the Project a. The Design-Builder shall phase development projects to the maximum degree practicable and shall take into account seasonal work limitations.	Design-Builder	Manage the Project	S9.D.12.a
NPDES SW-87	900	A	BMP Inspection and Maintenance; Monitoring Requirements; TESCP Requirements	b. Inspection and Monitoring All BMPs shall be inspected, maintained, and repaired by the Design-Builder as needed to assure continued performance of their intended function. Site inspections and monitoring shall be conducted in accordance with S4.	Design-Builder	Manage the Project	S9.D.12.b
NPDES SW-88	901	A	Erosion Control; SPCCP Requirements; TESCP Requirements	c. Maintaining an Updated Construction SWPPP The Design-Builder shall maintain, update, and implement the SWPPP (or TESCP or SPCCP) in accordance with Conditions S3, S4 and S9.	Design-Builder	Manage the Project	S9.D.12.c
NPDES SW-89	902	A	Submittal Requirements; TESCP Requirements	SWPPP – Map Contents and Requirements The Design-Builder's SWPPP (or TESCP) shall also include a vicinity map or general location map (e.g., USGS Quadrangle map, a portion of a county or city map, or other appropriate map) with enough detail to identify the location of the construction site and receiving waters within one mile of the site.	Design-Builder	SWPPP -Map Contents and Requirements	S9.E
NPDES SW-90	903	A	SPCCP Requirements; Submittal Requirements; TESCP Requirements	The Design-Builder's SWPPP (or TESCP or SPCCP) shall also include a legible site map (or maps) showing the entire construction site. The following features shall be identified, unless not applicable due to site conditions: 1. The direction of north, property lines, and existing structures and roads; 2. Cut and fill slopes indicating the top and bottom of slope catch lines; 3. Approximate slopes, contours, and direction of storm water flow before and after major grading activities; 4. Areas of soil disturbance and areas that will not be disturbed; 5. Locations of structural and nonstructural controls (BMPs) identified in the SWPPP **This commitment is continued in ID #1448.**	Design-Builder	SWPPP -Map Contents and Requirements	S9.E
NPDES SW-91	904	A	Monitoring Requirements; Permit Coverage; Recordkeeping; Sampling	WSDOT and the Design-Builder shall allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law: A. To enter upon the premises where a discharge is located or where any records shall be kept under the terms and conditions of this permit. B. To have access to and copy -at reasonable times and at reasonable cost -any records required to be kept under the terms and conditions of this permit. C. To inspect -at reasonable times -any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit. D. To sample or monitor -at reasonable times -any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.	WSDOT/Design-Builder	Right of Inspection and Entry	G3
NPDES SW-92	905	A	BMP Inspection and Maintenance; Drainage Facilities; Hazardous Materials; Solid and Liquid Waste Disposal	The Design-Builder shall ensure collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of storm water will not be resuspended or reintroduced to the final effluent stream for discharge to state waters.	Design-Builder	Removed Substances	G10
NPDES SW-93	906	A	Hazardous Materials; Permit Coverage; Solid and Liquid Waste Disposal	The Design-Builder shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.	Design-Builder	Toxic Pollutants	G18
NPDES SW-94	907	A	Drainage Facilities; Pontoon Construction	A. Bypass Procedures Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited for storm water events below the design criteria for storm water management. Ecology may take enforcement action against the Design-Builder for bypass unless one of the circumstances outlined in G26.A1 through G26.A5 of the NPDES is applicable.	Design-Builder	Bypass Procedures	G26.A
NPDES SW-95	908	A	Hazardous Materials; Solid and Liquid Waste Disposal	Duty to Mitigate The Design-Builder is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.	Design-Builder	Duty to Mitigate	G26.B

NPDES SW-96	911	A	Recordkeeping; Submittal Requirements	The Permittee (Design-Builder) shall address written requests for plans and records (with notification to WSDOT) listed under Condition S5.G.1 as follows: a. A copy of plans and records shall be provided to Ecology within 14 days of receipt of a written request from Ecology. Upon receiving a written request from the public for the Permittee's plans and records, the Permittee shall either: i. Provide a copy of the plans and records to the requestor within 14 days of a receipt of the written request; or ii. Notify the requestor within 10 days of receipt of the written request of the location and times within normal business hours when the plans and records may be viewed, and provide access to the plans and records within 14 days of receipt of the written request; or iii. Within 14 days of receipt of the written request, the Permittee may submit a copy of the plans and records to Ecology for viewing and/or copying by the requestor at an Ecology office, or a mutually agreed upon location. If plans and records are viewed and/or copied at a location other than at an Ecology office, the Permittee will provide re fee may be charged. The Permittee shall notify the requestor within 10 days of receipt of the request where the plans and records may be viewed and/or copied.	WSDOT/Design-Builder	Access to Plans and Records	S5.G.2
NPDES SW-97	912	A	Recordkeeping; Submittal Requirements	The Design-Builder shall submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. WSDOT (with information provided by the Design-Builder as requested) shall also submit to Ecology upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].	WSDOT/Design-Builder	Duty to Provide Information	G11
NPDES SW-98	913	A	Hazardous Materials; Solid and Liquid Waste Disposal	Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation. Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.	Design-Builder	Penalties for Violating Permit Conditions	G14
NPDES SW-99	914	A	Monitoring Requirements; Sampling; TESCP Requirements; Visual Quality	The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment shall be a fine of not more than $20,000 per day of violation, or imprisonment of not more than four (4) years, or both.	WSDOT/Design-Builder	Penalties for Tampering	G19
NPDES SW-100	916	A	Notification Requirements	REPORTING PLANNED CHANGES The Design-Builder shall notify Ecology immediately if there are any planned physical alterations, modification or additions to the construction activity permitted in the NPDES permit. The Design-Builder shall be responsible for any schedule delays that result from design changes. The Design-Builder shall, as soon as possible, give notice to Ecology of planned physical alterations, modifications or additions to the permitted construction activity, which will result in changes outlined under provision G20.A through D of this permit.	WSDOT/Design-Builder	Reporting Planned Changes	G20
NPDES SW-101	1438	A	Monitoring Requirements; Notification Requirements; Sampling; TESCP Requirements; Water Quality	**This commitment is a continuation of ID #828.** f. Any water quality monitoring performed during inspection. g. General comments and notes, including a brief description of any BMP repairs, maintenance or installations made as a result of the inspection. h. A statement that, in the judgment of the person conducting the site inspection, the site is either in compliance or out of compliance with the terms and conditions of the SWPPP and the permit. If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance, as well as a schedule of implementation. i. Name, title, and signature of the person conducting the site inspection; and the following statement: "I certify that this report is true, accurate and complete, to the best of my knowledge and belief."	Design-Builder	Site Inspections	S4.B.5
NPDES SW-102	1440	A	Monitoring Requirements; Notification Requirements; Sampling; Submittal Requirements; TESCP Requirements; Water Quality	v. Continue to sample discharges daily until: 1. turbidity is.25 NTU (or lower); or 2. the CESCL has demonstrated compliance with the water quality standard for turbidity; a. no more than 5 NTU over background turbidity, if background is less than 50 NTU, or b. no more than 10% over background turbidity, if background is 50 NTU or greater; or 3. the discharge stops or is eliminated.	Design-Builder	Turbidity 250 NTU or greater	S4.C.5.b
NPDES SW-103	1439	A	Monitoring Requirements; Notification Requirements; Sampling; Submittal Requirements; TESCP Requirements; Water Quality	b. Turbidity 250 NTU or greater: If discharge turbidity is greater than or equal to 250 NTU, the Design-Builder's CESCL shall: i. Notify WSDOT immediately in accordance with ECAP procedures and notify Ecology by phone in accordance with Condition S5.A.; and iL Review the SWPPP (or TESCP or Water Quality Monitoring Plan) for compliance with Condition S9 and make appropriate revisions within 7 days of the discharge that exceeded the benchmark; and iil. Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but within 10 days of the discharge that exceeded the benchmark; iv. Document 8MP implementation and maintenance in the site log book.	Design-Builder	Turbidity 250 NTUor greater	S4.C.5.b

NPDES SW-104	1441	B	Monitoring Requirements; Notification Requirements; Sampling; Submittal Requirements; TESCP Requirements; Water Quality	3. The Design-Builder shall submit a detailed written report to Ecology (and copy WSDOT on any correspondence) within five (5) days, unless requested earlier by Ecology. The report shall contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Design-Builder must report any unanticipated bypass and/or upset that exceeds any effluent limit in the permit in accordance with the 24-hour reporting requirement contained in 40 C.F.R. 122.41(1)(6). Compliance with these requirements does not relieve the Design-Builder from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.	WSDOT/Design-Builder	Noncompliance Notification	S5.F
NPDES SW-105	1447	A	TESCP Requirements	BMPs shall be consistent with the Stormwater Management Manual for Western Washington (most recent edition) for sites west of the crest of the Cascade Mountains, or the SWPPP shall document that the BMPs selected provide an equivalent level of pollution prevention, compared to the applicable Stormwater Management Manuals, including: a. The technical basis for the selection of all storm water BMPs (scientific, technical studies and/or modeling) that support the performance claims for the BMPs being selected; and b. An assessment of how the selected BMP will satisfy AKART requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.	Design-Builder	Stormwater Best Management Practices (BMPs)	S9.C
NPDES SW-106	1448	A	SPCCP Requirements; Submittal Requirements; TESCP Requirements	**This commitment is a continuation of ID #903.** 6. Locations of offsite material, stockpiles, waste storage, borrow areas, and vehicle/equipment storage areas; 7. Locations of all surface water bodies, including wetlands; 8. Locations where storm water or non-storm water discharges offsite and/or to a surface water body, including wetlands; 9. Location of water quality sampling station(s), if sampling is required by state or local permitting authority; and 10. Areas where final stabilization has been accomplished and no further construction phase permit requirements apply.	Design-Builder	SWPPP -Map Contents and Requirements	S9.E
ESA-1	1668	A	Clearing and Grading; Erosion Control; TESCP Requirements	The Design-Builder shall develop and implement a TESCP for clearing, grading, ditching, filling, compaction and/or excavation in accordance with the requirements of RFP Section 2.8. The BMPs in the plan shall be used to reduce sediment transport from disturbed ground to nearby waterbodies.	Construction (Design-Builder)	Site Preparation-grading #1	Upland Construction
ESA-2	1669	B	Delineation and Fencing	The Design-Builder shall clearly define construction limits with survey stakes prior to the beginning of ground-disturbing activities. No disturbance shall occur beyond these limits. High-visibility Construction Fencing (HVCF) shall be installed in accordance with RFP Section 2.8 to protect environmentally sensitive areas illustrated in the JARPA drawings and approved permits.	Environmental (Design-Builder)	Site Preparation-grading #2	Upland Construction
ESA-3	1702	A	Dredging; Fish, Aquatic Habitat, and T&E Fish Species; Pile Driving; Timing Requirements	The Design-Builder shall only conduct armoring, pile-installation, and other in-water work during the in-water work window agreed upon through Endangered Species Act (ESA) consultation and per the window prescribed in the Hydraulic Project Approval Permit. WSDOT and the regulatory agencies, through early coordination, have determined that the Design-Builder shall only conduct work below the Mean Higher High Water (MHHW) Mark from July 16 to August 31 annually.	Engineering Management (Design-Builder)	Site Preparation-grading #2	Upland Construction
ESA-4	1670	A	BMP Installation; Wetlands	The Design-Builder shall utilize BMPs to protect wetland areas and connected waterways outside of the Impact Area Line that are within 200 feet.	Environmental (Design-Builder)	Site Preparation-grading #3	Upland Construction
ESA-5	1703	A	Dredging; Pile Driving; Water Quality	Water quality restrictions imposed by the Washington State Department of Ecology (Ecology), which specify a mixing zone beyond which water quality standards cannot be exceeded by the Design-Builder's Work and shall be complied with during construction activities.	Engineering Management (Design-Builder)	Site Preparation-grading #3	Upland Construction
ESA-6	1671	A	Clearing and Grading; Plant Establishment; Planting Provisions	The Design-Builder shall minimize riparian vegetation removal to the degree practical and salvage native plant species for reuse onsite where feasible. In addition, native vegetation from other sources will be used during replanting where feasible.	Landscaping (Design-Builder)	Site Preparation-grading #4	Upland Construction
ESA-7	1672	B	Clearing and Grading; Permit Coverage; Solid and Liquid Waste Disposal; Submittal Requirements	The Design-Builder is required to provide WSDOT with copies of environmental permits for offsite disposal sites prior to taking the materials offsite.	Environmental (Design-Builder)	Site Preparation-grading #5	Upland Construction
ESA-8	1673	A	Dewatering; Drainage Facilities; TESCP Requirements; Water Bypass Provisions; Water Quality	The Design-Builder shall ensure any discharges from the site be directed to the existing channels that drain the perimeter of the site and the proposed landward portion of the launch channel. The Design-Builder shall ensure that no discharges are directed to the existing shoreline outside the mouth of the drainage channels unless the proposed discharge point is landward of the 2009 MHHW Mark and the flow is directed to the proposed launch channel footprint.	Environmental (Design-Builder)	Site Preparation -installation of dewatering wells #2	Upland Construction
ESA-9	1674	A	Hazardous Materials; SPCC Plan Requirements; Submittal Requirements; Timing Requirements	The Design-Builder shall be responsible for the preparation of a spill prevention control and countermeasures (SPCC) plan to be used for the duration of the project. The plan shall be prepared in accordance with RFP Section 2.8 and it shall be submitted to the WSDOT Project Engineer prior to the commencement of any construction activities. The Design-Builder shall maintain a copy of the plan at the work site.	Environmental (Design-Builder)	Construction of ancillary facilities #1	Upland Construction

ESA-10	1675	A	Hazardous Materials; SPCCP Requirements	The Design-Builder shall ensure spill response equipment and materials designated in the SPCC plan are located on the construction site and are replenished throughout the life of the project, including oil absorbent materials to be used in the event of a spill or if any oil product is observed in the water.	Environmental (Design-Builder)	Construction of ancillary facilities #1c	Upland Construction
ESA-11	1676	A	Hazardous Materials; SPCCP Requirements; Water Quality	The Design-Builder shall secure and proactively store oil booms such that rapid and effective deployment of each oil boom can be accomplished in the event of a hazardous material spill. The Design-Builder shall take the necessary measures to ensure no discharges are directed to a location outside the watershed area contained by these oil booms.	Environmental (Design-Builder)	Construction of ancillary facilities #1d	Upland Construction
ESA-12	1677	A	Drainage Facilities; Permit Coverage; TESCP Requirements	The Design-Builder shall design the Puyallup River Bridge Site to treat all water up to the 10-year storm event to meet the requirements of the NPDES and the Highway Runoff Manual . Refer to commitments pertaining to the NPDES Permit and the Highway Runoff Manual for specific design requirements (Sections 2.8 and 2.14).	Drainage (Design-Builder)	Construction of ancillary facilities #2	Upland Construction
ESA-13	1678	A	Dewatering; Drainage Facilities; Permit Coverage; Water Quality	The Design-Builder shall comply with water quality restrictions imposed by the Washington State Department of Ecology (Ecology), which specify a mixing zone beyond which water quality standards cannot be exceeded, during in-water construction activities. The turbidity criteria established under WAC 173-201A-210 (1)(e) shall be modified, without specific written authorization from the department, to allow a temporary area of mixing during and immediately after necessary in-water construction activities that result in the disturbance of in-place sediments. This temporary area of mixing is subject to the constraints of WAC 173-201A-400 (4) and (6) and can occur only after the Design-Builder has received all other necessary local and state permits and approvals, and after the implementation of appropriate best management practices to avoid or minimize disturbance of in-place sediments and exceedances of the turbidity criteria.	Environmental (Design-Builder)	Construction of ancillary facilities #3	Upland Construction
ESA-14	1679	A	Monitoring Requirements; Sampling; Water Quality	The Design-Builder shall comply with the Ecology 401 Water Quality Certification requirements when in-water work. The point of compliance shall be at a radius of one hundred fifty feet from the activity causing the turbidity exceedance. Turbidity criteria for marine waters include turbidities that do not exceed 5 NTU over background when the background is 50 NTU or less; or a 10 percent increase in turbidity when the background turbidity is more than 50 NTU to maintain extraordinary to excellent water quality category standards. Or, 10 NTU over background when the background is 50 NTU or less; or a 20 percent increase in turbidity when the background turbidity is more than 50 NTU to maintain good to fair water quality category standards.	Environmental (Design-Builder)	Construction of ancillary facilities #3a	Upland Construction
ESA-15	1680	A	Monitoring Requirements; Sampling; Water Quality	The Design-Builder shall perform visual turbidity monitoring periodically to ensure compliance with state water quality standards. If at any time, the visual turbidity levels are estimated to be approaching the turbidity exceedance criteria, field-testing shall be performed by the Design-Builder.	Environmental (Design-Builder)	Construction of ancillary facilities #3b	Upland Construction
ESA-16	1681	A	Equipment Provisions; SPCCP Requirements; Water Quality	Equipment that enters waterways shall be maintained such that no visible sheen from petroleum products appears within waterways. If a sheen appears around equipment in the water, the equipment will be contained within an oil boom and shall be removed from the water, cleaned and/or maintained appropriately.	Environmental (Design-Builder)	Construction of ancillary facilities #5	Upland Construction
ESA-17	1682	A	Equipment Provisions; Solid and Liquid Waste Disposal; SPCCP Requirements	If equipment leaks occur during in-water work, the Design-Builder's project manager shall see that the equipment is immediately removed from within the waterway to a location where pollutants cannot enter any waterway. The equipment shall not be allowed within the waterway until all leaks have been corrected and the equipment cleaned. The Design-Builder shall ensure upland areas where the leaking equipment is stored are also cleaned/remediated immediately.	Environmental (Design-Builder)	Construction of ancillary facilities #5a	Upland Construction
ESA-18	1683	A	Equipment Provisions; SPCCP Requirements; Training and Awareness	The Design-Builder and their associated subcontractors shall regularly check fuel hoses, oil drums, oil or fuel transfer valves, fittings, etc. for leaks, and shall maintain and store materials properly to prevent spills.	Environmental (Design-Builder)	Construction of ancillary facilities #5b	Upland Construction
ESA-19	1684	A	Access Road Provisions; Equipment Provisions; Shoreline Provisions; SPCCP Requirements	The Design-Builder shall not store construction materials and equipment on land where high tides, wave action, or upland runoff can cause materials to enter waterways. Equipment on land shall be stored at least 100 feet away from the shoreline; the only exception being large equipment (e.g., cranes), that due to low mobility, cannot be practicably moved between the work periods. Provided they are equipped with a spill containment system, such equipment may be fueled in place at the discretion of the project engineer in consultation with WSDOT environmental staff and NMFS/USFWS.	Environmental (Design-Builder)	Construction of ancillary facilities #5c	Upland Construction
ESA-20	1685	A	Hazardous Materials; SPCCP Requirements; Water Quality	The Design-Builder shall ensure no cleaning solvents or chemicals used for tools or equipment cleaning shall be discharged to ground or surface waters.	Environmental (Design-Builder)	Construction of ancillary facilities #6	Upland Construction
ESA-21	1686	A	Concrete Work; Equipment Provisions; SPCCP Requirements; Timing Requirements	The Design-Builder shall ensure no wet or curing concrete, including washout of equipment enter waterways or waterbodies. Forms and impervious materials within waterways shall remain intact until the concrete has cured for at least 72 hours.	Environmental (Design-Builder)	Construction of ancillary facilities #7	Upland Construction

ESA-22	1687	A	Air Quality; Energy and Natural Resources; Equipment Provisions; Training and Awareness	Equipment shall be turned off by the Design-Builder when not in use.	Environmental (Design-Builder)	Construction of ancillary facilities #8	Upland Construction
ESA-23	1688	A	Air Quality; Energy and Natural Resources; Equipment Provisions	The Design-Builder shall ensure only well-maintained and properly functioning equipment and vehicles be used.	Engineering Management (Design-Builder)	Construction of ancillary facilities #9	Upland Construction
ESA-24	1689	A	Fish, Aquatic Habitat, and T&E Fish Species; Lighting	The Design-Builder shall keep nighttime lighting intensity and illuminated areas to the minimum necessary for the intended purpose (e.g., safety, Coast Guard Requirements, etc.). The Design-Builder shall direct lights on to the work area and away/shielded from the water.	Engineering Management (Design-Builder)	Construction of ancillary facilities #10	Upland Construction
ESA-25	1690	A	Air Quality; Erosion Control; Excavation; Fugitive Dust Control; TESCP Requirements	The Design-Builder shall wet down and/or cover exposed soils when not in use to minimize fugitive dust and erosion due to wind.	Environmental (Design-Builder)	Construction of ancillary facilities #11	Upland Construction
ESA-26	1691	A	Drainage Facilities; Water Quality	The Design-Builder shall design and construct storm water treatment facilities in accordance with Section 2.14 and 2.8 of the RFP. These facilities may include but are not limited to wet ponds to hold process water, sediment ponds for turbidity reduction, as well as bioswales and/or underground vaults to capture construction site related runoff, ground water, and process water. The Design-Builder is responsible for designing and constructing water treatment facilities to ensure compliance with the NPDES Sand and Gravel Permit, NPDES Construction Stormwater General Permit, and the Ecology 401 Water Quality Certification.	Drainage (Design-Builder)	Construction of stormwater facilities #1	Upland Construction
ESA-27	1692	B	Clearing and Grading; Excavation; Solid and Liquid Waste Disposal	The Design-Builder shall ensure materials excavated from the site, that are not stockpiled onsite, and which are not reused, shall be disposed of in an approved, offsite, upland location.	Engineering Management (Design-Builder)	Excavation/construction of casting basin #1	Upland Construction
ESA-28	1693	A	Shoreline Provisions; Water Quality	The Design-Builder shall ensure riprap and any other placed material below the future (proposed) mean higher high water (MHHW) shall be clean and that the placement has approved in the environmental permits obtained for the Project.	Environmental (Design-Builder)	Construction of berm/berm armoring #2	Upland Construction
ESA-29	1694	A	Energy and Natural Resources; Monitoring Requirements; Noise; Pile Driving	The underwater sound pressure levels (SPL) from in water impact pile driving of piles shall be monitored by the Design-Builder. If the recorded sound pressure levels exceed the thresholds agreed upon by NOAA Fisheries, USFWS, FHWA and WSDOT, appropriate energy reduction measures shall be deployed by the Design-Builder to attenuate the SPLs.	Environmental (Design-Builder)	Upland pile driving #1	Upland Construction
ESA-30	1695	A	Monitoring Requirements; Noise; Pile Driving; Submittal Requirements	Monitoring plans for underwater sound shall be prepared by the Design-Builder and approved by WSDOT, NOAA Fisheries and USFWS prior to initiating any pile driving.	Environmental (Design-Builder)	Upland pile driving #2	Upland Construction
ESA-31	1696	B	Noise; Pile Driving	~~A noise shroud shall be deployed by the Design-Builder to reduce airborne sound associated with pile driving.~~ Agreement for commitment deletion.	Environmental (Design-Builder)	Upland pile driving #3	Upland Construction
ESA-32	1697	A	Concrete Work; Permit Coverage; Water Quality	The Design-Builder shall ensure no wet or curing concrete or grout (including washout of equipment) shall enter waterways. The Design-Builder shall treat all water coming in contact with uncured concrete according to standards defined in the National Pollution Discharge Elimination System and Sand and Gravel General permits to prevent a discharge of high pH water.	Environmental (Design-Builder)	Concrete work for forming casting basin #1	Upland Construction
ESA-33	1698	A	Pile Driving	The Design-Builder shall use a vibratory hammer to drive sheet piles in and immediately adjacent to water to the maximum extent practicable.	Geotechnical (Design-Builder)	Construction of sheet pile cofferdams to stabilize bank between upland launch channel	Upland Construction
ESA-34	1699	A	Clearing and Grading; Excavation; Transportation	Materials shall be transported within existing travel routes. The Design-Builder shall secure the necessary street use permits prior to the start of construction.	Engineering Management (Design-Builder)	Material export/import #1	Upland Construction
ESA-35	1700	A	Excavation; Solid and Liquid Waste Disposal; Transportation	Exposed materials shall be enclosed during transport to minimize fugitive dust and to prevent any loss of sediment or pollution to the surrounding environment.	Environmental (Design-Builder)	Material export/import #2	Upland Construction
ESA-38	1705	A	Equipment Provisions; Fish, Aquatic Habitat, and T&E Fish Species; Noise; Pile Driving	The Design-Builder shall install all in water piles and piles immediately adjacent to water with a vibratory hammer to the maximum extent practicable. If impact pile driving is required, a bubble curtain or other approved sound attenuation system will be deployed and the Design-Builder will be required to comply with mitigation measures identified within an Underwater Noise Monitoring Plan and project environmental commitments and permit conditions.	Structures (Design-Builder)	Construction of dolphins/piles #1	Launch Channel/Dolp hin Construction
NEPA-1	1810	A	Air Quality; Fugitive Dust Control	State law requires the Design-Builder to take reasonable precautions to prevent fugitive dust from becoming airborne.	Construction (Design-Builder)		

NEPA-2	1811	A	Air Quality; Clearing and Grading; Excavation; Fugitive Dust Control	To control fugitive dust emissions, the Design-Builder shall spray exposed soil with water or other suppressant to reduce emissions of PM10 and deposition of particulate matter.	Construction (Design-Builder)		
NEPA-3	1812	A	Air Quality; Clearing and Grading; Excavation; Fugitive Dust Control; Schedule	To control fugitive dust emissions, the Design-Builder shall use phased development to keep disturbed areas to a minimum.	Construction (Design-Builder)		
NEPA-4	1813	A	Air Quality; Delineation and Fencing; Erosion Control; Fugitive Dust Control	To control fugitive dust emissions, the Design-Builder shall use wind fencing to reduce disturbance to soils.	Construction (Design-Builder)		
NEPA-5	1814	A	Air Quality; Excavation; Fugitive Dust Control	To control fugitive dust emissions, the Design-Builder shall minimize dust emissions during transport of fill material or soil by wetting down or by making sure there is adequate freeboard (i.e., space from the top of the material to the top of the truck bed) on trucks.	Construction (Design-Builder)		
NEPA-6	1815	A	Access Road Provisions; Air Quality; Fugitive Dust Control	To control fugitive dust emissions, the Design-Builder shall promptly clean up any spills of transported material or track out on public roads.	Construction (Design-Builder)		
NEPA-7	1816	A	Access Road Provisions; Air Quality; Fugitive Dust Control; Maintenance of Traffic	To control fugitive dust emissions, the Design-Builder shall schedule work tasks to minimize disruption of the existing vehicle traffic on streets.	Construction (Design-Builder)		
NEPA-8	1817	A	Access Road Provisions; Air Quality; Excavation; Fugitive Dust Control; Stabilization of Entry/Exit Points	To control fugitive dust emissions, the Design-Builder shall minimize traffic on the unstabilized portions of site and implement the BMPs necessary to prevent the transport of sediments onto adjacent roadways and haul routes.	Construction (Design-Builder)		
NEPA-9	1818	A	Air Quality; Equipment Provisions; Fugitive Dust Control	To control fugitive dust emissions, the Design-Builder shall locate construction equipment and truck staging areas away from sensitive receptors (such as residences, hospitals, and schools) as practical and in consideration of potential effects on other resources.	Construction (Design-Builder)		
NEPA-10	1819	A	Access Road Provisions; Air Quality; Fugitive Dust Control; Stabilization of Entry/Exit Points	To control fugitive dust emissions, the Design-Builder shall install and maintain a tire wash to remove particulate matter that would otherwise be carried offsite by vehicles to decrease deposition of particulate matter on area roadways. The system shall include adequate containment for the wash water to ensure compliance with state water quality standards and all permit conditions.	Construction (Design-Builder)		
NEPA-11	1820	A	Air Quality; Excavation; Fugitive Dust Control	To control fugitive dust emissions, the Design-Builder shall cover truck beds, dirt, gravel, and debris piles as needed to reduce wind-blown debris.	Construction (Design-Builder)		
NEPA-12	1821	A	Air Quality; Fugitive Dust Control	The Design-Builder shall minimize emissions of PM10, VOCs, NOX, SO2, and CO whenever reasonable and possible.	Environmental (Design-Builder)		
NEPA-13	1823	A	BMP Installation; Erosion Control; TESCP Requirements; Water Resources; Wetlands	The Design-Builder shall use best management practices (BMPs) to avoid and minimize unintentional effects to wetlands or aquatic sites not permitted for impacts. BMPs could include implementing temporary erosion and sediment control measures and a storm water pollution prevention plan in accordance with the NPDES permits obtained for the Work.	Environmental (Design-Builder)		
NEPA-14	1824	A	Equipment Provisions; SPCCP Requirements	The Design-Builder shall take the appropriate measures to prohibit the servicing and refueling of vehicles within 100 feet of aquatic habitats to reduce potential spills of petroleum and hydraulic fluids in sensitive areas.	Construction (Design-Builder)		
NEPA-15	1825	A	BMP Installation; Drainage Facilities; Water Quality	The Design-Builder shall implement the necessary BMPs to ensure runoff from newly created impervious surfaces is treated for water quality to meet the requirements stipulated in RFP Section 2.8 and 2.17.	Drainage (Design-Builder)		
NEPA-16	1826	A	Concrete Work; Fish, Aquatic Habitat, and T&E Fish Species; Water Quality	The Design-Builder shall ensure that fresh concrete will not come in contact with waters of the State, as required by Washington Administrative Code (WAC)110220-070(1)(g).	Construction (Design-Builder)		
NEPA-17	1827	A	Fish, Aquatic Habitat, and T&E Fish Species; Noise; Pile Driving	The Design-Builder shall minimize the potential effects of driving piles by adhering to the conservation measures included within the Biological Assessment and the associated Biological Opinion issued for the Project. Several methods such as the use of air bubble cushions; management practices for sound pressure attenuation during pile driving will reduce the transmission of energy to the surrounding water, thus minimizing levels that would potentially injure fish.	Construction (Design-Builder)		

NEPA-18	1828	A	Dredging; Excavation; Fish, Aquatic Habitat, and T&E Fish Species; Pile Driving; Schedule; Timing Requirements	The Design-Builder shall ensure that in-water work will take place only during designated work windows, as identified by the appropriate agencies (i.e., WDFW, NOAA Fisheries, and USFWS).	Construction (Design-Builder)		
NEPA-19	1829	B	BMP Installation; Delineation and Fencing; TESCP Requirements; Timing Requirements	Construction limits shall be clearly surveyed and environmentally sensitive areas shall be delineated with high-visibility construction fencing prior to the beginning of ground-disturbing activities. The Design-Builder shall ensure that no disturbance will occur beyond these limits.	Construction (Design-Builder)		
NEPA-20	1830	A	BMP Installation; Clearing and Grading; Excavation; TESCP Requirements; Water Quality	The Design-Builder shall install the necessary BMPs to isolate the active work areas from waterways and aquatic habitat that is not permitted for impacts.	Construction (Design-Builder)		
NEPA-21	1831	A	Fish, Aquatic Habitat, and T&E Fish Species; Lighting	The Design-Builder shall keep the intensity of and area illuminated by nighttime lighting to the minimum that is necessary for the intended purpose. The Design-Builder shall direct lights onto the work areas and away from the water, where applicable.	Construction (Design-Builder)		
NEPA-22	1832	A	Energy and Natural Resources; Equipment Provisions; Excavation	The Design-Builder shall adhere to construction practices that encourage efficient energy use, such as avoiding the double-handling of excavated soil (unless required for archaeological monitoring), limiting idling equipment, and locating staging areas near work sites.	Construction (Design-Builder)		
NEPA-23	1833	A	Energy and Natural Resources; Transportation	The Design-Builder shall encourage carpooling of workers to the site.	Traffic (Design-Builder)		
NEPA-24	1834	A	Economic Impacts; Energy and Natural Resources	The Design-Builder shall purchase construction materials from local suppliers as much as possible, to limit fuel consumption associated with material transport.	Construction (Design-Builder)		
NEPA-25	1836	A	Energy and Natural Resources; Utilities	The Design-Builder shall coordinate with the local utilities to minimize the impact on energy demand and supply.	Utilities (Design-Builder)		
NEPA-26	1838	A	Access Road Provisions; Energy and Natural Resources; Equipment Provisions; Excavation	The Design-Builder shall set up active construction areas, staging areas, and material transfer sites in ways that reduce equipment and vehicle idling. WSDOT and the Design-Builder shall work together to promote ridesharing and other commute trip reduction efforts for employees working on the project.	Construction (Design-Builder)		
NEPA-27	1840	B	Ground Water Quality; SPCCP Requirements	The Design-Builder shall implement the necessary BMPs to ensure compliance with state water quality standards. The BMPs utilized for compliance could include, but would not be limited to, source control, Chitosan-enhanced filtration, and/or wet ponds. Fueling areas shall include covers and spill containment features. Groundwater shall be kept separate from storm water.	Construction (Design-Builder)		
NEPA-28	1841	A	Dewatering; Geology and Soils	The Design-Builder shall refine settlement estimates as the design continues. If potential settlements caused by project construction and operation could damage pipes, structures, or rail lines, the Design-Builder shall prepare plans for repair or reconstruction, mobilize repair or reconstruction materials to the site, monitor settlement, and be prepared to repair damage if it occurs.	Geotechnical (Design-Builder)		
NEPA-29	1842	A	Dewatering; Geology and Soils	The Design-Builder shall refine settlement estimates as the design continues. If the Design-Builder determines that potential settlements caused by project construction and operation could damage any of the constructed facilities or adjacent offsite structures, the Design-Builder shall reduce the settlement-inducing ground water drawdown in the areas of concern by constructing temporary or permanent ground water cutoff walls. Alternative settlement-abating methods may be implemented upon review and approval by WSDOT.	Geotechnical (Design-Builder)		
NEPA-30	1845	A	Geology and Soils	During the design stage of the Project, the Design-Builder will need to identify approaches for avoiding settlement of onsite and offsite adjacent structures. For example, the Design-Builder may need to take measures prior to construction to improve soils where facilities will be situated.	Geotechnical (Design-Builder)		
NEPA-31	1847	A	Land Use	The Design-Builder shall be responsible for meeting the requirements of local shoreline management plans and permits.	Environmental Mitigation (Design-Builder)		
NEPA-32	1848	A	Cumulative and Secondary Impacts; Economic Impacts; Land Use	The Design-Builder shall be responsible for obtaining permits from local municipalities. Furthermore, the Design-Builder shall ensure the project is consistent and complies with applicable policies and regulations of local Comprehensive Plans, Shoreline Master Programs, Zoning Ordinances, and Critical Area Ordinances.	Environmental (Design-Builder)		

NEPA-33	1849	B	Equipment Provisions; Noise	The Design-Builder shall implement best management practices to ensure compliance with State WAC noise requirements. All engine-powered equipment shall have mufflers installed according to the manufacturer's specifications, and all equipment shall comply with United States Environmental Protection Agency (EPA) equipment noise standards.	Construction (Design-Builder)		
NEPA-34	1850	B	Noise; Timing Requirements	The Design-Builder shall limit construction activities that produce the highest noise levels (such as hauling, loading spoils, jack-hammering, and using other demolition equipment) to the periods of time permitted by the City of Puyallup.	Construction (Design-Builder)		
NEPA-35	1851	A	Noise; Pile Driving; Wildlife, Habitat, and Upland T&E Species	The Design-Builder shall avoid and minimize pile-driving effects on fish. Effects shall be mitigated with appropriate BMPs that are to be developed and provided to WSDOT prior to submittal of the JARPA application for this Project.	Environmental (Design-Builder)		
NEPA-36	1852	B	Noise; Recordkeeping	The Design-Builder shall keep a construction log for each of the construction staging areas. The log would contain general construction information such as the time an activity took place, type of equipment used, and any other information that may help with potential noise effects. Construction logs are helpful when determining noise sources associated with noise complaints.	Construction (Design-Builder)		
NEPA-37	1853	B	Noise; Social Impacts	The Design-Builder shall establish a Project hotline to record all noise complaints, compare them to the construction logs, and use this information to identify the source of the noise, ensure that appropriate noise-mitigating BMPs are in place, and to identify any equipment that may require repairs.	Public Relations (Design-Builder)		refer to 1862
NEPA-38	1854	A	Equipment Provisions; Noise	The Design-Builder shall remove from service any equipment not meeting noise standards until proper repairs can be made, and the equipment is re-tested and is in compliance with noise standards. This procedure applies to, but is not limited to, all haul trucks, loaders, excavators, and other equipment that would have extensive use at the construction sites and are major contributors to potential noise effects.	Construction (Design-Builder)		
NEPA-39	1855	A	Equipment Provisions; Noise	The Design-Builder shall equip all engine-powered equipment with mufflers, installed according to the manufacturer's specifications.	Construction (Design-Builder)		
NEPA-40	1856	A	Equipment Provisions; Noise	The Design-Builder shall acquire and maintain all equipment to comply with pertinent USEPA equipment noise standards.	Construction (Design-Builder)		
NEPA-41	1858	A	Equipment Provisions; Monitoring Requirements; Noise	The Design-Builder shall minimize noise by regular inspection and replacement of defective mufflers and other parts that do not meet the manufacturer's specifications.	Construction (Design-Builder)		
NEPA-42	1859	B	BMP Installation; Equipment Provisions; Noise	If the State WAC noise requirements are confirmed to be exceeded, the Design-Builder shall install or implement noise procedures and best management practices to reduce noise levels. These BMPs may include the installation of temporary or portable acoustic barriers around stationary construction noise sources including pile driving equipment, jackhammers, concrete cutters, and generators, or rescheduling of the noise generating activities. The Design-Builder shall also have the opportunity to work with the Department of Ecology and the City of Puyallup as the enforcement authorities to consider issuance of a variance under WAC 173-60-080.	Construction (Design-Builder)		
NEPA-43	1860	A	Equipment Provisions; Noise	The Design-Builder shall locate stationary construction equipment as far from nearby noise-sensitive properties as feasible.	Construction (Design-Builder)		
NEPA-44	1861	A	Air Quality; Equipment Provisions; Noise	The Design-Builder shall shut off idling equipment during extended periods of non use.	Construction (Design-Builder)		
NEPA-45	1863	A	Demolition Activities; Noise; Notification Requirements; Pile Driving; Schedule	The Design-Builder shall notify nearby residents seven days prior to when extremely noisy work (such as pile driving) would be occurring.	Public Relations (Design-Builder)		
NEPA-46	1865	A	Utilities	The Design-Builder shall coordinate closely with utility providers to minimize service interruptions.	Utilities (Design-Builder)		
NEPA-47	1866	A	Public Services; Utilities	The Design-Builder shall, in the event of temporary waterline shutdowns, notify and coordinate with the appropriate fire department and public works departments.	Utilities (Design-Builder)		
NEPA-48	1867	A	Notification Requirements; Public Services; Schedule; Utilities	The Design-Builder shall, in the event of temporary utility service interruptions, notify area businesses and residents and provide a schedule of construction activities in the affected areas	Utilities (Design-Builder)		

NEPA-49	1868	A	Monitoring Requirements; Public Services; Schedule; Utilities	The Design-Builder shall coordinate with public service providers and provide them with construction schedules to minimize the effects of utility relocations on public services.	Public Relations (Design-Builder)		
NEPA-50	1869	A	Access Road Provisions; Maintenance of Traffic; Notification Requirements; Public Services; Schedule	The Design-Builder shall coordinate with law enforcement agencies to keep them fully informed about the project construction schedule, type of activities, location of activities, and anticipated activity along haul routes.	Public Relations (Design-Builder)		
NEPA-51	1870	A	Air Quality; Equipment Provisions; Noise; Social Impacts	The Design-Builder shall maintain equipment in good mechanical condition, equipping engines with mufflers to minimize exhaust emissions and noise, and use newer equipment or equipment with add-on emission controls whenever possible.	Construction (Design-Builder)		
NEPA-52	1872	A	Equipment Provisions; Noise; Social Impacts	The Design-Builder shall reducing idling time of construction equipment by turning off during periods of nonuse.	Construction (Design-Builder)		
NEPA-53	1873	A	Erosion Control; Excavation; Fugitive Dust Control; Social Impacts	The Design-Builder shall require their own staff and hauling contractors to effectively cover loads and to spray exposed soils with water or other suppressant to minimize dust and windblown debris.	Construction (Design-Builder)		
NEPA-54	1874	A	Access Road Provisions; Maintenance of Traffic; Transportation	The Design-Builder shall work closely with local jurisdictions before initiating project construction, to establish a process for assessing current conditions of the haul route and for determining if any road maintenance would be needed during or at Project Physical Completion to repair damage caused by project-related heavy truck traffic.	Traffic (Design-Builder)		
NEPA-55	1877	A	Access Road Provisions; Maintenance of Traffic; Schedule; Timing Requirements; Transportation	The Design-Builder shall manage the construction schedule in a manner that encourages the dispersal of daily employee departures over a longer time span (i.e. not all employees arriving and departing within a single hour each day). The Design-Builder shall address this issue in their Traffic Management Plan as required per RFP Section 2.22.	Traffic (Design-Builder)		
NEPA-56	1879	A	Lighting; Visual Quality	The Design-Builder shall shield and/or direct temporary and operational construction site lighting to reduce the amount of light spilling onto nearby residences and businesses.	Construction (Design-Builder)		
NEPA-57	1882	A	SPCCP Requirements; Submittal Requirements; TESCP Requirements	The Design-Builder develop and comply with the temporary erosion and sediment control (TESC) plan requirements described in Section 2.8 of the RFP, including NPDES permit requirements for the development of a Stormwater Pollution Prevention Plan (SWPPP), and the spill prevention control and countermeasures (SPCC) plan.	Construction (Design-Builder)		
NEPA-58	1885	A	Drainage Facilities; Monitoring Requirements; Water Quality; Water Resources	The Design-Builder may use chitosan treatment (a linear polysaccharide produced from the treatment of chitin, a structural element in crab and shrimp shells) to meet permit requirements. The Design-Builder shall conduct online monitoring prior to discharging this material to marine-receiving environments to determine whether or not these treatments are necessary in order to meet state limits for TSS and pH and any other water quality standards consistent with applicable NPDES construction and operations approvals.	Drainage (Design-Builder)		
NEPA-59	1886	A	Dewatering; Drainage Facilities; Geology and Soils; Ground Water Quality; Water Resources	The Design-Builder shall develop mitigation measures to minimize drawdown and impacts to ground water resulting from dewatering activities.	Geotechnical (Design-Builder)		
HPA-1	1887	C	Fish, Aquatic Habitat, and T&E Fish Species; Pile Driving; Schedule; Timing Requirements	TIMING LIMITATIONS: The project may begin and shall be completed within the following timing constraints: a. The Design-Builder shall ensure that construction work below the ordinary high water line at the Puyallup River Site shall not occur from July 16 through August 31 of any year for the protection of migrating juvenile salmonids.	Construction (Design-Builder)	Timing Limitations	1
HPA-2	1888	B	Notification Requirements; Reporting Requirements; Water Bypass Provisions; Water Resources	NOTIFICATION REQUIREMENT: The Design-Builder shall notify WSDOT so WSDOT can notify the WDFW Area Habitat Biologist (AHB) of the project start date. Notification shall be received by the AHB prior to the start of construction. The Design-Builder shall notify WSDOT so WSDOT can provide written notice to the WDFW Enforcement Sergeant no less than three working days prior to start of work, and again within seven (7) days of completion of work to arrange for a compliance inspection. The notification shall include the permittee's name, project location, starting date for work or completion date of work, and the control number for the Hydraulic Project Approval obtained for the Project.	Environmental (Design-Builder)	Notification Requirement	2
HPA-3	1893	A	Drainage Facilities; Fish, Aquatic Habitat, and T&E Fish Species	The Design-Builder shall ensure that design and construction of drainage outfalls shall be equipped with a Tideflex or other similar type of tide gate, to prevent fish from entering the drainage system.	Drainage (Design-Builder)	Drainage Outfalls	7
HPA-4	1896	B	Clearing and Grading; Excavation; Fish, Aquatic Habitat, and T&E Fish Species; Water Quality; Water Resources	The Design-Builder shall ensure that materials, excavated or otherwise, shall not be stockpiled below Ordinary High Water (OHW) and the Mean Higher High Water (MHHW) Mark.	Construction (Design-Builder)	Excavated Material	10

HPA-5	1897	A	Excavation; Fish, Aquatic Habitat, and T&E Fish Species	Unless otherwise explicitly allowed by permit conditions, trenches, depressions, and holes created by the Design-Builder during project activities conducted below the MHHW Mark shall be filled with clean material and reshaped to pre-project elevations prior to inundation with tidal waters.	Construction (Design-Builder)	Excavation Requirements	11
HPA-6	1900	A	Fish, Aquatic Habitat, and T&E Fish Species; Pile Driving	The preferred pile driving method is by the use of vibratory equipment; an impact driver, however, may be used where vibratory techniques are impracticable. Hydraulic, cable, or other types of impact drivers where the driving force can be regulated are preferred over diesel impact drivers. Use of impact drivers by the Design-Builder will be governed by applicable in-water work fish windows, limitations, and BMPs as specified by associated Federal, State, and local permits.	Engineering Management (Design-Builder)	Intertidal and In-Water Pile Driving and Removal Provisions	15
HPA-7	1902	A	Solid and Liquid Waste Disposal; Timing Requirements	The Design-Builder shall be responsible for removing any temporary pilings used for coffer dams (or other uses) by the use of vibratory equipment within the permitted work window. The Design-Builder shall ensure that the pilings are disposed or stored upland following completion of the Work.	Construction (Design-Builder)	Intertidal and In-Water Pile Driving and Removal Provisions	17
HPA-8	1904	B	Fish, Aquatic Habitat, and T&E Fish Species; Monitoring Requirements; Notification Requirements; Pile Driving	If a fish kill occurs or fish are observed in distress from pile driving, the Design-Builder shall immediately cease the activity and WSDOT shall be notified. WSDOT will notify the Washington Military Department's Emergency Management Division and to the WDFW Area Habitat Biologist immediately. The Design-Builder shall ensure that a project inspector/biologist is onsite during all in water pile driving operations to monitor for distressed fish. The project inspector/biologist qualification shall include demonstrated field experience in fish identification. The Design-Builder shall ensure that this inspector has full authority to stop work in the event that dead or distressed fish are observed.	Construction (Design-Builder)	Intertidal and In-Water Pile Driving and Removal Provisions	19
HPA-9	1911	A	Dredging; Excavation; Shoreline Provisions	The Design-Builder shall limit removal or destruction of overhanging bankline vegetation to that necessary for the construction of the Project.	Environmental (Design-Builder)	Habitat Feature and Water Quality Provisions	26
HPA-10	1915	A	Fish, Aquatic Habitat, and T&E Fish Species; Notification Requirements; Pile Driving; Pontoon Construction; Shoreline Provisions	If a fish kill occurs or fish are observed in distress, the Design-Builder shall immediately cease activities within the vicinity and WSDOT shall be notified immediately. WSDOT will in turn notify the WDFW Habitat Program.	WSDOT/Design-Builder	Habitat Feature and Water Quality Provisions	30
HPA-11	1916	A	Excavation; Shoreline Provisions; Solid and Liquid Waste Disposal	The Design-Builder shall ensure that all construction related debris on the river bank be removed and disposed of at an upland permitted facility such that it does not enter waters of the State.	Landscaping (Design-Builder)	Habitat Feature and Water Quality Provisions	31
HPA-12	1918	A	Hazardous Materials; Solid and Liquid Waste Disposal; SPCCP Requirements; Water Quality	The Design-Builder shall take great care to ensure that no petroleum products or other deleterious materials enter surface waters.	Construction (Design-Builder)	Habitat Feature and Water Quality Provisions	33
HPA-13	1919	A	Fish, Aquatic Habitat, and T&E Fish Species; Solid and Liquid Waste Disposal; SPCCP Requirements; Water Quality	The Design-Builder shall ensure that Project activities not degrade water quality to the detriment of fish life.	Construction (Design-Builder)	Habitat Feature and Water Quality Provisions	34
CORPS 404-1	1920	A	Notification Requirements; Permit Coverage; Schedule; Timing Requirements	The time limit for completing the work authorized will be specified in the approved permit. The Design-Builder shall notify WSDOT of any need for an extension of time to complete the authorized activity so WSDOT can submit a request to the U. S. Army Corps of Engineers (USACE) at least 1 month prior to the end date specified in the approved permit.	Environmental (Design-Builder)	General Conditions	1
CORPS 404-2	1921	A	Historic, Cultural, Archaeological Resources; Monitoring Requirements; Notification Requirements	If any previously unknown historic or archeological remains are discovered by WSDOT or the Design-Builder while accomplishing the activity authorized by the permits for the project, the Design-Builder must immediately notify WSDOT and follow the procedures spelled out in the Unanticipated Discovery Plan for this Project. WSDOT will provide notification to the USACE.	Environmental (Design-Builder)	General Conditions	2
CORPS 404-3	1922	A	Permit Coverage; Water Quality	The Design-Builder shall comply with the conditions specified within the 401 Water Quality Certification issued for the Project as special conditions to this permit. A copy of the certification will be attached if it contains such conditions.	Environmental (Design-Builder)	General Conditions	3
HPA-3	1922	A	Permit Coverage; Water Quality	The Design-Builder shall comply with the conditions specified within the 401 Water Quality Certification issued for the Project as special conditions to this permit. A copy of the certification will be attached if it contains such conditions.	Environmental (Design-Builder)	Notification Requirement	3
CORPS 404-4	1923	A	Monitoring Requirements; Permit Coverage	The Design-Builder shall allow representatives from the USACE to inspect the authorized activity at anytime deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of the Section 404 permit.	Construction (Design-Builder)	General Conditions	4

CORPS 404-5	1924	A	Recordkeeping; Submittal Requirements; Training and Awareness	The Design-Builder shall provide a copy of the Section 404 Permit transmittal letter, the permit form, and drawings to all contractors and subcontractors performing any of the authorized Work.	Construction (Design-Builder)	Special Conditions	a
CORPS 404-6	1925	A	Permit Coverage	WSDOT understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the WSDOT will be required, upon due notice from the USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without Expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.	Environmental (Design-Builder)	Special Conditions	b
CORPS 404-7	1931	A	Fish, Aquatic Habitat, and T&E Fish Species; Permit Coverage; Water Resources; Wildlife, Habitat, and Upland T&E Species	In order to legally take a listed species, WSDOT must have a separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 7 consultation Biological Opinion with non-discretionary Incidental Take provisions with which the Design-Builder must comply).	WSDOT/Design-Builder	Special Conditions	h
CORPS 404-8	1932	A	Fish, Aquatic Habitat, and T&E Fish Species; Permit Coverage; Wildlife, Habitat, and Upland T&E Species	The Biological Opinions (BO) prepared by the National Marine Fisheries Service (NMFS or NOAA) and the U.S. Fish and Wildlife Service (USFWS) for this Project contain mandatory terms and conditions the Design-Builder shall implement which include reasonable and prudent measures that are associated with the specified incidental take in the BOs . WSDOT's authorization under the USACE permit is conditional upon the Design-Builder's compliance with all of the mandatory terms and conditions associated with incidental take of these BOs. These terms and conditions will be incorporated by reference into the permit. The Design-Builder's failure to comply with the commitments made in the document constitutes non-compliance with the ESA and USACE permit. The USFWS and NMFS (NOAA) are the appropriate authorities to determine compliance with ESA.	Environmental (Design-Builder)	Special Conditions	i
CORPS 404-9	1933	A	Excavation; Historic, Cultural, Archaeological Resources; Monitoring Requirements; Submittal Requirements	The Federal Highways Administration (FHWA) has been designated the lead Federal agency responsible for implementing and enforcing the requirements of Section 106 of the National Historic Preservation Act (NHPA.) In order to meet the requirements of Section 106 of the NHPA, WSDOT must, prior to commencing construction, submit to the U.S. Army USACE of Engineers (Corps), Seattle District, Regulatory Branch, a copy of the monitoring plan submitted to the State Historic Preservation Officer. Authorization under the USACE permit is conditional upon the Design-Builder and WSDOT's compliance with the monitoring plan. FHWA and WSDOT are the agencies responsible for ensuring compliance with the monitoring plan.	WSDOT/Design-Builder	Special Conditions	j
CORPS 404-10	1934	A	Excavation; Historic, Cultural, Archaeological Resources; Notification Requirements	If human remains or archaeological resources are encountered during construction, the Design-Builder shall cease all ground disturbing activities in the immediate area and WSDOT shall immediately (within one business day of discovery) notify the U.S. Army USACE of Engineers (Corps). The Design-Builder shall perform any work required by the USACE in accordance with Section 106 of the National Historic Preservation Act and USACE regulations. If the Design-Builder or WSDOT discovers any previously unknown historic or archeological remains while accomplishing the activity authorized by the permits for the project, the Design-Builder shall immediately notify WSDOT and follow the procedures spelled out in the Unanticipated Discovery Plan for this Project.	WSDOT/Design-Builder	Special Conditions	k
401-1	1936	A	Hazardous Materials; Water Quality	Puyallup River is designated as waters of the State. Certification of this proposal does not authorize the Design-Builder to exceed applicable state water quality standards (173-201A WAC) or sediment quality standards (173-204 WAC) beyond what is authorized by the Department of Ecology. Furthermore, nothing in the approved Department of Ecology 401 permit shall absolve the Design-Builder from liability for contamination and any subsequent cleanup of surface waters or sediments occurring as a result of project construction or operations.	Environmental (Design-Builder)	Compliance with Water Quality Standards	A.1
401-2	1938	A	BMP Installation; Clearing and Grading; TESCP Requirements; Timing Requirements	From October 1 through April 30, the Design-Builder shall ensure no soils remain exposed and unworked for more than two (2) days. From May 1 to September 30, the Design-Builder shall ensure no soils remain exposed and unworked for more than seven (7) days.	Construction (Design-Builder)	Timing	B.3
401-3	1939	A	Notification Requirements	The Design-Builder shall provide notification to WSDOT so WSDOT can provide notification to Ecology at least 30 Calendar days prior to the pre-construction meeting.	WSDOT/Design-Builder	Notification Conditions	C.1 (1st bullet)
401-4	1940	A	Notification Requirements	The Design-Builder shall provide notification to WSDOT so WSDOT can provide notification to Ecology at least 30 Calendar days prior to starting construction activities.	WSDOT/Design-Builder	Notification Conditions	C.1 (2nd bullet)
401-5	1944	A	Notification Requirements	The Design-Builder shall provide notification to WSDOT so WSDOT can provide notification to Ecology at least 30 Calendar days after the completion of the project.	WSDOT/Design-Builder	Notification Conditions	C.1 (6th bullet)

401-6	1945	A	Notification Requirements; Reporting Requirements; Water Quality	The Design-Builder shall provide notification to WSDOT so WSDOT can provide immediate notification to Ecology any time a violation of the state water quality standards occurs or if a revision from the permitted Work is needed.	WSDOT/Design-Builder	Notification Conditions	C.1 (7th bullet)
401-7	1946	B	Permit Coverage; Training and Awareness; Water Quality	WSDOT and the Design-Builder shall ensure that all appropriate Project Engineers, Lead Contractors, Sub-Contractors and Site Managers at the project site have read and understand relevant conditions of the Ecology 401 Water Quality Certification and all permits, approvals, and documents referenced in the Ecology 401 Water Quality Certification.	WSDOT/Design-Builder	Notification Conditions	C.2
401-8	1947	B	Submittal Requirements; Training and Awareness; Water Quality	The Design-Builder shall ensure that all project engineers, contractors, and other workers at the project site with authority to direct work, have read and understand the conditions in the project Water Quality Certification (WQC). The Design-Builder shall provide Ecology a signed statement for each signatory that s/he has read and understands the conditions of the project WQC and WQC referenced permits, documents, and approvals. The Design-Builder shall submit these statements to Ecology before construction begins at each project component.	WSDOT/Design-Builder	Notification Conditions	C.2.a
401-9	1948	B	Submittal Requirements; Timing Requirements	The signed statements required per Commitment ID #1947 shall be provided to WSDOT within three (3) Calendar days following receipt of final project permits. WSDOT will provide them to Ecology and shall include in this statement the Ecology 401 Water Quality Certification number and project contact.	WSDOT/Design-Builder	Notification Conditions	C.2.b
401-10	1949	A	Reporting Requirements; Schedule; Submittal Requirements	The Design-Builder shall submit to WSDOT a detailed construction schedule for work in-water, overwater, near shore and on steep slopes, staging areas, and temporary parking and access areas so WSDOT can submit the schedule to Ecology prior to the start of Work.	WSDOT/Design-Builder	Notification Conditions	C.3
401-11	1959	B	Excavation; Hazardous Materials; Solid and Liquid Waste Disposal; Submittal Requirements; Timing Requirements	The Design-Builder shall submit a Soils Management Plan to WSDOT for Review and Comment at least 30 Calendar days prior to the start of construction. Final characterization of the upland soils, and disposal options, including location-specific conditions for management of excavated materials, will be outlined and evaluated in the Management Plan.	WSDOT/Design-Builder	Upland Soils/Sediment Management and Stockpiling	F.1
401-12	1960	B	Dredging; Solid and Liquid Waste Disposal; Visual Quality	If dredged material is temporarily stockpiled in the uplands (above +10.1 ft MHHW), the Design-Builder shall ensure that stockpiling and containment of such material is in compliance with the Project 401 Ecology Water Quality Certification and the associated Water Quality Monitoring Plan. No dewatering water from stockpiled dredged materials will be allowed to discharge to waters of the State.	Construction (Design-Builder)	Upland Soils/Sediment Management and Stockpiling	F.2
401-13	1961	B	Dewatering; Dredging; Hazardous Materials	Prior to offsite disposal, temporarily stockpiled soils that are determined to be contaminated or the object of a cleanup, shall be fully contained by the Design-Builder in a lined facility. The Design-Builder shall use the appropriate controls to prevent runoff from the stockpile and to prevent windblown dusts from leaving the stockpile. The Design-Builder shall ensure that no water from contaminated soils enter waters of the State.	Construction (Design-Builder)	Upland Soils/Sediment Management and Stockpiling	F.3
401-14	1963	B	Hazardous Materials; Sampling	Prior to offsite disposal at a licensed disposal facility, temporarily stockpiled soils that are determined to be contaminated or the object of a cleanup, shall be fully contained by the Design-Builder in a lined facility and covered. The Design-Builder shall ensure that no water from the contaminated soils stockpile enters waters of the State.	Environmental (Design-Builder)	Upland Soils/Sediment Management and Stockpiling	F.5
401-15	1964	A	Dredging; Hazardous Materials; Solid and Liquid Waste Disposal; Submittal Requirements	If review of the upland or nearshore soils material characterization by Ecology and other jurisdictions indicate that soils are below Dangerous Waste designation limits, the Design-Builder's Soils and Dredged Material Management Plan shall address the following: a. The amount of material that will be managed onsite and the steps that shall be taken to satisfy permitting requirements; b. The amount of material that will be disposed of in a permitted solid waste facility; c. If no permitted solid waste facility is available, a plan will be submitted that details the steps that shall be taken to permit a solid waste facility for disposal of the material; d. Permitting of a new facility shall be in compliance with WAC 173-350 and all other applicable regulations.	Environmental (Design-Builder)	Disposal of Soil	G.1
401-16	1965	A		Upland soils and dredged material that are determined to be suitable for upland disposal shall be disposed of only at upland locations for which the Design-Builder was able to obtain copies of permits and environmental approvals and provided these to WSDOT in accordance with the Standard Specifications and RFP requirements.	Environmental (Design-Builder)	Disposal of Soil	G.2
401-17	1966	A		If sampling results indicate contamination in the soils or dredged material at levels above Dangerous Waste designation limits of 173-303, then the Design-Builder must take steps to manage or dispose of soils and dredge materials accordingly.	Environmental (Design-Builder)	Disposal of Soil	G.3
401-18	1967	B		If field observations and confirmatory field screening with a Photo Ionization Detector (PID) reveal that soil contamination exists at the edges of the excavation at levels above Model Toxics Control Act (MTCA) Method B unrestricted land use cleanup levels, then the Design-Builder will be required to conduct side wall sampling in the areas of question to determine the level of contamination left in place.	Environmental (Design-Builder)	Disposal of Soil	G.4

401-19	1968	A		The Design-Builder shall ensure that all vehicles transporting upland soils be suitably equipped to prevent spillage of soils while in route to the permitted disposal site.	Construction (Design-Builder)	Disposal of Soil	G.5
401-20	1969	A		Work in, over or near the waterbody conducted by the Design-Builder shall be done so as to minimize turbidity, erosion, and other water quality impacts.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.a
401-21	1970	A		Machinery and equipment used during construction shall be serviced, fueled, steam cleaned and maintained by the Design-Builder in an upland location, identified within the Design-Builder's SPCCP, in order to prevent contamination to any surface water. Some equipment will not be feasible to move on a regular basis to refuel. In this case, the Design-Builder shall utilize the necessary BMPs to prevent spills to water during refueling.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.b
401-22	1971	A		Use of equipment on the beach shall be held to a minimum by the Design-Builder and equipment shall be confined to designated access corridors that minimize impacts to the beach.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.c
401-23	1972	B		The Design-Builder shall remove all debris or deleterious material resulting from construction activities to prevent the materials from entering waters of the State and shall dispose of it properly in a permitted upland disposal facility. Concrete rubble, metal debris, and other debris in the construction work corridor that has washed into river areas shall be removed from the project area.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.d
401-24	1973	A		The Design-Builder shall survey and delineate all Environmentally Sensitive Areas not permitted for impact with high-visibility construction fencing in order to protect them from disturbance. To avoid impacts to eelgrass, forage fish spawning areas and any other sensitive aquatic macro algae bed, no portion of any pontoon, barge, anchor or float system shall ground in areas that have been delineated as such unless prior approval from the regulatory agencies has been received.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.e
401-25	1974	A		The Design-Builder shall ensure that all concrete be poured in the dry, or within confined waters not being dewatered to surface waters, and shall be allowed to cure before contact with uncontrolled surface waters (i.e. the Design-Builder shall not allow waters of the State to come in contact with the concrete structure while the concrete is curing). Wet, uncured concrete in direct contact with the water is toxic to aquatic life.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.f
401-26	1975	A		Concrete pumps, tremies or other approved methods of concrete placement shall be used by the Design-Builder. The Design-Builder shall ensure proper containment, de-watering and equip the concrete placement gear with an emergency cut-off valve so that no uncured concrete comes into contact with waters of the State.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.g
401-27	1976	A		The Design-Builder shall reshape river bank area depressions created during project activities to protect bank levels upon project completion.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.h
401-28	1977	A		The Design-Builder shall conduct project activities to minimize siltation of the river bed.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities	H.1.i
401-29	1979	A		Bridge Construction: The Design-Builder shall protect all inlets and catchments during construction to ensure no conveyance of toxic materials to waters of the State.	Construction (Design-Builder)	Bridge Construction	H.2.c
401-30	1984	B		Prior to removing forms within OHWM, the Design-Builder shall ensure the concrete is completely cured.	Construction (Design-Builder)	Bridge Construction	H.3.d
401-31	1985	A		Creosote treated piling, lumber, or other treated material shall not be used by the Design-Builder on this Project.	Construction (Design-Builder)	Pile Removal and Installation Work (including temporary sheet piles)	H.4.a
401-32	1986	A		When removing piles, direct vibratory pulling shall be the method utilized by the Design-Builder whenever possible to minimize localized turbidity.	Construction (Design-Builder)	Pile Removal and Installation Work (including temporary sheet piles)	H.4.c
401-33	1987	B		The Design-Builder shall implement best management practices for all in-water work (i.e., pile removal, pile driving, armoring, and outfall construction) to ensure that turbidity thresholds per WAC 173-201A and as presented in the Water Quality Monitoring and Protection Plan are met at the applicable points of compliance. If turbidity exceedances occur the Design-Builder shall notify WSDOT immediately and implement corrective actions to prevent additional exceedances.	Construction (Design-Builder)	Pile Removal and Installation Work (including temporary sheet piles)	H.4.d
401-34	1989	A		The Design-Builder shall ensure that wash water from the vehicles delivering concrete be contained and not discharged unless it is discharged to a pH/turbidity treatment system capable of discharging in compliance with State water quality standards.	Construction (Design-Builder)	Conditions for the Transport of Concrete	I.2

401-35	1990	A		The Design-Builder shall submit to Ecology and WSDOT a Temporary Erosion and Sediment Control (TESC) Plan and an SPCC plan for review at least 30 Calendar Days prior to beginning construction.	Construction (Design-Builder)	Conditions for Construction Stormwater	J.3
401-36	1992	A		Water Quality: Discharges from construction and operational activities shall be monitored per the Design-Builder's Water Quality Monitoring Plan approved by Ecology (as required per the NPDES Construction Stormwater General Permit and the NPDES Sand and Gravel General Permit).	Construction (Design-Builder)	Monitoring Conditions	L.1
401-37	1993	B		The Design-Builder shall ensure that in-water work will be performed in accordance with the Project 401 Ecology Water Quality Certification, implementing the in-water work BMPs as required per the 401 Water Quality Monitoring and Protection Plan. In the event of any water quality monitoring exceedances (e.g., turbidity and dissolved oxygen), the Design-Builder shall follow the notification procedures identified in the 401 Water Quality Monitoring and Protection Plan. WSDOT shall be notified of the problem and proposed corrections so WSDOT can notify Ecology. All monitoring of uplands discharges will be conducted by the Design-Builder to ensure compliance with the permit conditions set by Ecology in the NPDES Construction General Permit or the NPDES Sand and Gravel General Permit and associated NPDES monitoring plans.	Construction (Design-Builder)	Monitoring Conditions	L.1
401-38	1994	A		Prior to starting construction, the Design-Builder's Monitoring Plan shall identify all the construction and operational activities at the site that may have a discharge (e.g., dewatering water, construction storm water, operational storm water, etc.) whether to surface water or ground water.	Construction (Design-Builder)	Monitoring Conditions	L.1.a
401-39	1995	B		The Design-Builder shall ensure that all construction storm water discharges will be monitored to meet the requirements of the NPDES Construction General Permit. All process water discharges will be monitored to meet the requirements of the NPDES Sand and Gravel General Permit. In accordance with NPDES requirements, monitoring plans will be developed to ensure compliance. All in-water work and discharges will also meet the requirements of the Ecology 401 Water Quality Certification and 401 Water Quality Monitoring and Protection Plan.	Construction (Design-Builder)	Monitoring Conditions	L.1.b
401-40	1996	A		Prior to starting construction, the Design-Builder's Monitoring Plan shall identify the location of proposed discharge points and require monitoring at each discharge point.	Construction (Design-Builder)	Monitoring Conditions	L.1.c
401-41	1997	B		Deletion unless required by the final NPES permits. Prior to starting construction, the Design-Builder's Monitoring Plan shall include the requirement to sample daily during storm events that exceed 0.25 inches of rainfall within 24 hours or when discharging (e.g. dewatering water, construction, storm water, channel dredging, operational storm water, etc.) whether to surface water or ground water.	Construction (Design-Builder)	Monitoring Conditions	L.1.d
401-42	1998	A		Prior to starting construction, the Design-Builder's Monitoring Plan shall identify the procedures used at the Puyallup River Site for collecting samples, testing, water quality inspections, recording rainfall (e.g., 0.25 inches per 24 hours during a rain event), weather conditions and documenting the results.	Construction (Design-Builder)	Monitoring Conditions	L.1.e
401-43	1999	B		Prior to starting construction, the Design-Builder's NPDES Monitoring Plan shall contain contingency measures for NPDES parameter requirements consistent with the permit conditions set by Ecology in the NPDES Construction General Permit to avoid potential water quality impacts to the Puyallup River. The Design-Builder's 401 Water Quality Monitoring and Protection Plan shall contain contingency measures for Ecology 401 Water Quality Certification requirements (e.g., turbidity and dissolved oxygen) to avoid potential water quality impacts to the Puyallup River. The Design-Builder shall implement contingency measures, as needed and as identified in the plans described above.	Construction (Design-Builder)	Monitoring Conditions	L.1.f
401-44	2000	A		The Design-Builder shall retain the Monitoring Plan onsite during construction activities or within reasonable access to the site and make it immediately available upon request by Ecology.	Construction (Design-Builder)	Monitoring Conditions	L.1.g
401-45	2001	A		The Design-Builder shall update their Monitoring Plan as necessary to adequately represent changes at the Puyallup River Site.	Construction (Design-Builder)	Monitoring Conditions	L.1.h
401-46	2006	B		Any work that is out of compliance with the provisions of the Ecology 401 Water Quality Certification, or conditions causing distressed or dying fish, or any discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, is prohibited. The Design-Builder shall identify contingency measures and notification protocols if distressed or dying fish are observed in the Project Fish Handling Plan, 401 in-water work Water Quality Monitoring and Protection Plan. If conditions as described above occur, the Design-Builder and WSDOT shall immediately take the following actions: a) Cease operations at the location of the violation or spill, b) Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage, c) Notify Ecology of the failure to comply. All oil spills shall be reported immediately to Ecology's 24-hour Spill Response Team, and within 24 hours of spills or other events to Ecology's Federal Project Manager, and d) Submit a detailed written report to Ecology within five (5) days that describes the nature of the event, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of any samples taken, and any other pertinent information.	WSDOT/Design-Builder	Emergency/Contingency Measures	M.1

401-47	2007	A		The Design-Builder shall have the necessary cleanup materials available and respond to all spills in a timely fashion, preventing their discharge to waters of the State. The Design-Builder shall ensure that all appropriate Project Engineers, construction staff and subcontractors receive appropriate training to assure that spills are reported to WSDOT and responded to appropriately.	Construction (Design-Builder)	Spill Response	M.3.c
401-48	2008	A		This Order does not authorize direct, indirect, permanent, or temporary impacts to waters of the State or related aquatic resources, except as specifically provided for in conditions of this Order.	Construction (Design-Builder)	General Conditions	N.1
401-49	2009	A		This Order does not exempt and is conditioned upon compliance with other statutes and codes administered by federal, state, and local agencies.	Construction (Design-Builder)	General Conditions	N.2
401-50	2010	A		Ecology retains continuing jurisdiction to make modifications hereto through supplemental Order if it appears necessary to further protect the public interest.	Construction (Design-Builder)	General Conditions	N.3
401-51	2011	A		The Design-Builder shall construct and operate the project in a manner consistent with the project description contained in the approved Joint Aquatic Resources Permit Application (JARPA) and any other related permits for the Project.	Construction (Design-Builder)	General Conditions	N.4
401-52	2012	A		If at any time during project construction, the Design-Builder finds buried containers such as drums, or notices any unusual conditions that might indicate the disposal of chemicals or hazardous material, the contractor shall cease operations immediately and notify WSDOT, so WSDOT can contact Ecology's Southwest Regional Hazardous Waste Office at 360-407-6300.	Construction (Design-Builder)	General Conditions	N.5
401-53	2013	A		WSDOT and the Design-Builder shall each have at least one representative onsite, or on-call and readily accessible to the site, at all times while construction activities are occurring that may affect the quality of ground and surface waters of the State, including all periods of construction activities.	Construction (Design-Builder)	General Conditions	N.6
401-54	2014	A		The WSDOT and Design-Builder representatives shall have adequate authority to ensure proper implementation of the Erosion and Sediment Control Plan, as well as immediate corrective actions necessary because of changing field conditions. If the WSDOT or Design-Builder's representative issues a directive necessary to implement a portion of the Pollution Control Plan or to prevent pollution to waters of the State, all personnel onsite, including the Design-Builder and the Design-Builder's employees, shall immediately comply with this directive and contact WSDOT for any non-compliance so WSDOT can contact Ecology.	Construction (Design-Builder)	General Conditions	N.7
401-55	2015	A		WSDOT and the Design-Builder shall provide access to the Puyallup River Site upon request by Ecology personnel for site inspections, monitoring, necessary data collection, or to ensure that conditions of this Order are being met.	WSDOT/Design-Builder	General Conditions	N.8
401-56	2016	A		Copies of this Order and all related permits, approvals, and documents shall be kept on the project site and readily available by the Design-Builder for inspection and reference by the project managers, construction managers and foremen, other employees and contractors of the Design-Builder, and state agency personnel.	WSDOT/Design-Builder	General Conditions	N.9
401-57	2017	A		Any person who fails to comply with any provision of this Order shall be liable for a penalty of up to ten thousand dollars ($10,000) per violation for each day of continuing noncompliance.	WSDOT/Design-Builder	General Conditions	N.10
NMFS-BO-1		D	Pile driving	The Design-Builder shall limit pile driving to a 60 day period within the July 16 and August 31 window for conducting the work in water. Impact pile driving shall be limited to 12 hours per day, during days when driving piles. Impact pile driving shall further be limited to a cumulative total of 68 hours during the 60 day period.			
NMFS-BO-2		D	Underwater Noise Monitoring Plan	The Design-Builder shall provide NMFS with a detailed Noise Monitoring Plan prior to beginning construction activities. The Design-Builder shall monitor the number of pile strikes and underwater sound at a representative number of piles. The Design-Builder shall submit a report of the underwater noise monitoring to NMFS by Physical Completion.			
AMP/UDP-1		D	Procedures for Discovery of Human Skeletal Remains	If human remains are encountered during construction, project excavation within the 30 meter buffer will not commence without approval by the WSDOT Cultural Resource Specialist (CRS). If the elevation of the find is not being monitored pursuant to the monitoring plan, the project will begin monitoring the remainder of project construction. No exposed human remains will be left unattended during work hours.			

AMP/UDP-2		D	Procedures for Discovery of Archaeological Resources	If archaeological resources are encountered during construction, the Design-Builder shall stop work and notify WSDOT. The area of work stoppage (minimum of 30 meters from the discovery) will be adequate to provide for the security, protection, and integrity of the archaeological discovery. Vehicles, equipment, and unauthorized personnel will not be permitted to traverse the discovery site. The discovery of disassociated fish weir stakes do not constitute an unanticipated discovery for this project. To the extent possible, the Design-Builder shall collect the individual fish weir stakes encountered per the Archaeological Monitoring Plan (AMP). The items that could constitute a resource discovery are identified in the AMP, and shall be treated as such by the Design-Builder.			
AMP/UDP-3		D	Archaeological Monitoring Methods	The Design-Builder shall provide sufficient work space and unobstructed visual opportunity for archaeological monitoring during all excavation that has the potential to penetrate the buried historic surface or the native riverbed surface (not including pile driving). Archaeological monitoring is not required at any other depths. Archaeological monitors will be present at the site of excavation if an exposed surface is visible, and periodically monitoring excavated substrate. The archaeological monitor may pause construction periodically as needed for a closer examination of exposed sediments and/or artifacts.			
AMP/UDP-4		D	Contractor Training	The Design-Builder shall participate in a pre-construction meeting to outline environmental commitments, potential violations and fines, and the process for stop-work orders. The Design-Builder shall provide WSDOT with the contractor and equipment operator "tailgate" meeting schedule so that an the archaeological monitor can participate to discuss monitoring requirements, discovery protocols, and types of artifacts that have been found in the Grays Harbor area.			
AMP/UDP-5		D	Contractor Training	The Design-Builder shall work with the WSDOT Cultural Resource Specialist or archaeological monitor to facilitate the implementation of the WSDOT designed cultural resource education program for construction crews.			
AMP/UDP-6		D	Discovery Protocols	If the archaeological monitor is not present when a previously unknown cultural resource is discovered during construction activities, the Design-Builder shall immediately cease all project excavation from 30 meters of the discovery and notify the archaeological monitor or the onsite WSDOT environmental inspector. The Design-Builder shall cease work in the proximity of the discovery and flag the area for easily visible identification. The Design-Builder shall protect the discovery site from vandalism or further disturbance of any kind.			
USFWS-BO-1		D	In-water Pile Installation	The Design-Builder shall use a vibratory pile hammer to the fullest extent practicable when installing steel piles below the MHHW. The Design-Builder shall monitor in-water sound generation and attenuation while installing steel piles with an impact pile hammer.			
USFWS-BO-2		D	In-water Pile Installation Noise Attenuation	The Design-Builder shall conduct impact pile driving operations without the use of a noise attenuation device only when proofing piles in water less than two feet deep, or as necessary to determine baseline SPLs as specified in the Underwater Sound Monitoring Plan.			
USFWS-BO-3		D	In-water Pile Installation Noise Attenuation	The Design-Builder shall use a noise attenuation device consisting of a bubble curtain, or functional equivalent, when impact driving and proofing steel piles in water greater than two feet deep. The Design-Builder shall use a bubble curtain or functional equivalent in accordance with the USFWS Biological Opinion terms and conditions.			
USFWS-BO-4		D	In-water Pile Installation Notification	The Design-Builder shall notify WSDOT for WSDOT to contact USFWS within 24 hours if the hydroacoustic monitoring indicates that the SPLs will exceed the extent of take exempted in the USFWS Biological Opinion. WSDOT and the Design-Builder shall consult with the Service regarding modifications to the proposed action in an effort to reduce the SPLs below the limits of take and continue hydroacoustic monitoring.			
USFWS-BO-5		D	In-water Pile Installation Reporting	The Design-Builder shall submit a monitoring report to WSDOT by March 30 for WSDOT to submit to USFWS by April 30. The monitoring report will include the pile installation and monitoring information as identified in the USFWS Biological Opinion terms and conditions.			
USFWS-BO-6		D	Notification	The Design-Builder shall notify WSDOT immediately, and WSDOT will notify the Service within three working days upon locating a dead, injured, or sick endangered or threatened species specimen. The Design-Builder shall exhibit care in handling sick or injured specimens to preserve biological materials in the best possible state for later analysis of cause of death, if that occurs, and ensure that evidence associated with the specimen is not unnecessarily disturbed.			
401-13	1948	C	Submittal Requirements; Timing Requirements	The signed statements required per Commitment ID #1947 shall be provided to WSDOT within three (3) Calendar days following receipt of final project permits. WSDOT will provide them to Ecology and shall include in this statement the Ecology 401 Water Quality Certification number and project contact.			

GHC-1		D	Soil Stockpile and Solid Waste Removal	The Design-Builder shall ensure that the excavated material to be stockpiled onsite shall consist of clean soils (WAC 173-350-100) and the following excavated materials and debris will be removed from the soils to be placed in the stockpile and shall be properly disposed of in a permitted solid waste facility; metals, plastics, geo-textiles, rubber, tires, and visually identifiable creosote or other chemically treated lumber, concrete, clearing and grubbing, foundations, fences and other structures or obstructions. Large logs shall also be removed from the excavated soils and properly disposed of offsite.			
ROD-1		D	Health and Safety	The Design-Builder will develop a comprehensive health and safety plan. This plan will include procedures for monitoring vapor releases and preventing fires caused by potential methane ignition.			
NPDES-CTA-TS-1		D	Chemical Treatment Compliance for Temp. System	The Design-Builder shall ensure that all chemical treatment is performed in accordance with the Department of Ecology approved Chemical Treatment Authorization for the temporary treatment system under the NPDES Construction General permit.			
City-HRA-1		D	City of Puyallup Haul Road/Detour Agreement	The Design-Builder shall be responsible only for the extra maintenance and repairs of the City of Puyallup's roads or streets occasioned by the project use. Any maintenance and repairs of City roads that are determined to be the responsibility of the Design-Builder shall be made in accordance with Exhibit A Special Conditions of the Municipal Haul Road/Detour Agreement. The Design-Builder shall keep all City streets clear of any dirt or debris that originates from the project site.			
City-SSD-1		D	Project Permit Compliance	The Design-Builder shall ensure that all activity occurring in-water or near water shall comply with requirements as determined by the Department of Fish and Wildlife. The Design-Builder shall obtain all required permits from WDNR, USACE, Ecology, and the City of Puyallup construction permits, and shall ensure that all project activities shall be performed in compliance with OSHA Standards. The Design-Builder shall ensure that construction is in compliance with the Record of Decision issued October 2007.			
City-SSD-2		D	Spills and Fuel Release Cleanup	The Design-Builder shall ensure that all appropriate methods are in place to take care of all releases of oils, hydraulic fluids, fuels, other petroleum products, paints, solvents, and other deleterious materials, spills are contained and removed in a manner that will prevent their discharge to waters and soils of the state. The cleanup of spills shall take precedence over other work.			
City-SSD-3		D	Erosion and Sediment Control	The Design-Builder shall ensure that erosion control through the use of Best Management Practices as required to prevent side casting of fill material on to adjacent properties or into the water. All erosion and sediment control measures shall be in place prior to, during, and after site improvements are completed or when control measures are no longer needed.			
City-SSD-4		D	In-water Equipment Maintenance and Spills	The Design-Builder shall ensure that equipment that enters waterways shall be maintained such that no visible sheen from petroleum products appears within waterways. If a sheen appears around the equipment in the water, the equipment shall be contained within an oil boom and shall be removed from the water, cleaned and/or maintained appropriately, If equipment leaks occur during work, the Design-Builder shall ensure that the equipment is immediately removed from within the waterway to a location where pollutants cannot enter any waterway. The equipment shall not be allowed within the waterway until all leaks have been corrected and the equipment cleaned. Any upland area where leaking equipment is stored will also cleaned/remediated immediately.			
HPA-35	(401-F9)	D	Outfall Installation; Water Diversion and Fish Precautions	The Design-Builder shall install outfalls in the dry or in isolation from the river flow. Any device used for diverting water from a fish-bearing stream shall be equipped with a fish guard to prevent passage of fish into the diversion device pursuant to RCW 77.57.010 and 77.57.070. The pump intake shall be screened with 1/8-inch mesh to prevent fish from entering the system. The screened intake shall consist of a facility with enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second. Screen maintenance shall be adequate to prevent injury or entrapment to juvenile fish and the screen shall remain in place whenever water is withdrawn from the stream through the pump intake.			
HPA-36	(401-F10, 401-F12)	D	Outfall Installation; Splash Pad and Materials	The Design-Builder shall install a sandbag revetment or similar device at the downstream end of the bypass to prevent backwater from entering the work area. Quarry spalls used to create splash pads shall be composed of clean, angular material of a sufficient durability and size to prevent its being broken up or washed away by high flow, high water or wave action. Excess sand, gravel, fill or native materials removed from the site shall be disposed at an upland site such that they do not re-enter surface waters of the State.			
HPA-39	(401-F21, 401-F22)	D	Infrastructure Installation; Sheet Pile; In-water Work; Concrete Forms and BMPs	The Design-Builder shall install the approximately 750 linear feet of temporary steel sheet pile in the dry with a vibratory hammer. Upon completion of the project, all material used in the temporary sheet pile structures shall be removed from the site. If concrete is poured onsite, wet concrete shall be prevented from entering waters of the State. Forms for any concrete structure shall be constructed to prevent leaching of wet concrete. Forms and impervious materials shall remain in place until the concrete is cured.			

HPA-40		D	Infrastructure Installation; Treated Lumber	The Design-Builder shall ensure that all treated lumber to be used for the project shall meet or exceed the standards established in "Best Management Practices For the Use of Treated Wood in Aquatic and Other Sensitive Environments" developed by the Western Wood Preservers Institute, Wood Preservation Canada, Southern Pressure Treaters' Association, and Timber Piling Council, dated August 2, 2006, and any current amendments or addenda to it. Current amendments and addenda include but may not be limited to "Amendment #1 CCA Chromated Copper Arsenate", dated October 25, 2006; and "Addendum #1: ACC Acid Chromated Copper", dated February 28, 2007. Sawdust, drillings, and trimmings from treated wood or plastic shall be contained with tarps or other impervious materials and prevented from contact with the beach, bed, or waters of the State. Under no circumstances shall creosote treated piling or lumber be used for project construction.			
HPA-44	(401-F18, 401-F19, 401-F20)	D	Installation of In-water Piling	The Design-Builder shall ensure that all piles installed for the launch channel shall be either steel or untreated wood. Approximately 50 (24 inch diameter) piles shall be placed in the river channel. The use of both vibratory and impact hammer is authorized under the project HPA. If an impact hammer is required to proof or drive steel piles, the following sound attenuation methods shall be required: a) For steel piles, 10 inches in diameter or less, a 6 inch thick wood block shall be installed between the piling and the impact hammer during pile driving operations or a bubble curtain shall be installed around the pile during pile driving operations. b) For steel piles greater than 10 inches in diameter, a bubble curtain shall be installed around the pile for driving operations. c) A bubble curtain or other WDFW approved sound attenuation device shall be used for all impact pile-driving activities (including proofing) on steel piles greater than 10-inches in diameter.			
HPA-45		D		The Design-Builder shall ensure that measures are taken to ensure that no petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into surface waters. An emergency spill containment kit must be located onsite along with a pollution prevention plan detailing planned fueling, materials storage, and equipment storage. Waste storage areas must be prepared to address prevention and cleanup of accidental spills.			
401-83		D	General Conditions; Submittals and Notifications	The Design-Builder shall ensure that all project submittals, as required per the 401 Water Quality Certification (WQC), are provided to Ecology consistent with the WQC general conditions. All notifications to Ecology shall be performed in accordance with the WQC requirements and include notification a) at least 7 days prior to the onset of initiating work on the project site, b) at least 7 days within project completion, and c) at least 7 days prior to maintenance dredging.			
401-84		D	General Conditions; Changes and Updated Information	The Design-Builder in coordination with WSDOT shall obtain Ecology review and approval before undertaking any changes to the proposed project that might significantly and adversely affect water quality, other than those project changes required by the project Water Quality Certification (WQC). Within 30 days of any updated information, Ecology will determine if the revised project requires a new public notice and Certification or if a modification to the project WQC is required.			
401-85		D	In-water Work Window	The Design-Builder shall ensure that all in-water work is completed within the work window identified in the most current Hydraulic Project Approval (HPA) that WDFW issues for the project. Any project changes that require a new or revised HPA shall be submitted to Ecology for review.			
401-86		D	Water Quality Monitoring; Mixing Zones	The Design-Builder shall monitor water quality for turbidity at the temporary turbidity mixing zone point of compliances as defined in the project Water Quality Certification (WQC); Channel Armoring - 500 ft down current, Pile Removal and Driving - 300 ft down current, and West Ditch Outfall Construction - 100 ft down current. The Design-Builder shall perform additional turbidity monitoring at the following locations; 250 ft for channel armoring, and 150 ft for pile driving.			
401-88		D	Water Quality Exceedances	If turbidity exceedances of the criteria as defined in the project WQC and project Water Quality Monitoring and Protection Plan (WQMPP), at the point of compliance are detected, the Design-Builder shall immediately take action to stop, contain, and take other steps to prevent further violations and otherwise stop the violation and correct the problem. After the event the Design-Builder shall assess the adequacy of the BMPs and update, or improve those used, to reduce and prevent recurrence of the turbidity exceedances. The Design-Builder shall notify WSDOT immediately, such that WSDOT can notify Ecology's Project Manager of any turbidity exceedances detected through water quality monitoring (including visual) within 24 hours of occurrence. The Design-Builder shall assist WSDOT in providing Ecology with the following information at a minimum; a) a description of the nature and cause of the exceedance, b) the period of non-compliance, including precise dates, and when the Design-Builder returned, or expects to return to compliance, c) the steps taken, or to be taken, to reduce, eliminate, and prevent recurrence of the non-compliance, and d) in addition to the 24 hour notification, the Design-Builder shall assist WSDOT in submitting a written report to Ecology that describes the nature of the exceedance, sampling results and location, photographs, and any other pertinent information within 5 days after the exceedance. The report shall also identify what additional BMPs were, or will be implemented to prevent further exceedances.			
401-90		D	Upland Construction Conditions	The Design-Builder shall ensure that all clearing limits, stockpile sites, staging areas, and trees to be preserved shall be clearly marked prior to construction activities and maintained until all work is completed for each project. Construction storm water, sediment, and erosion control BMPs (e.g., filter fences, coir mats, etc.) to prevent exceedances of state water quality standards shall be in place before starting construction at the site. The Design-Builder shall comply with the NPDES Construction Stormwater General Permit (#WAR-124726) issued for the project.			

401-91		D	In-water Construction	In-water construction is defined as all work below Ordinary High Water (OHW). During construction the Design-Builder shall have a boat available at all times for debris retrieval.			
401-93		D	Outfall Installation	The Design-Builder shall ensure that upon completion of the outfall work, all material used in the sandbag revetment or bypass shall be removed from the site and the site returned to pre-project or improved conditions.			
CORPS 404-17		D	In-water Work Window; Notification Requirements; Services	The Design-Builder shall comply with the conditions specified within the USFWS and NMFS Biological Opinions issued for the Project. The Design-Builder shall conduct the authorized activities in the work window as agreed to and documented in writing through consultation by USFWS and/o NMFS in any year the permit is valid. If changes to the originally authorized work window are proposed, the Design-Builder and WSDOT must re-coordinate these changes with the Services and receive written concurrence on the changes. Copies of the concurrence(s) must be sent to the USACE, Regulatory Branch, with in 10 days of the date of the revised concurrence.			
CORPS 404-22		D	General Condition	The Design-Builder shall provide a copy of the USACE 404/10 permit transmittal letter, permit form, and permit drawings to all contractors involved in the authorized work, and a copy of the permit materials shall be maintained in good condition in the project permits file. No activity or its operation may impair reserved tribal rights, but not limited to, reserved water rights and treaty fishing and hunting rights.			
NPDES SW-108		D	Application requirements, S2.A.1.d and e	If the Design-Builder intends to use a BMP selected on the basis of Special Condition S9.C4 ("demonstrably equivalent" BMPs), the applicant must notify Ecology of its selection as part of the NOI. In the event the Design-Builder selects BMPs after submission of the NOI, it must provide notice of the selection of an equivalent BMP to Ecology at least 60 days before intended use of the equivalent BMP. The Design-Builder must notify Ecology regarding any changes to the information provided in the NOI by submitting an updated NOI.			
NPDES SW-109		D	Monitoring requirements, S4	If construction activity results in the disturbance of 1 acre or more, and involves significant concrete work (1,000 cubic yards of poured or recycled concrete over the life of a project) or the use of engineered soils, and storm water from the affected area drains to surface waters of the State or to a storm sewer storm water collection system that drains to other surfaces waters of the State, the Design-Builder must conduct pH monitoring sampling in accordance with Special Condition S4.D.			
NPDES SW-110		D	Monitoring requirements, Pollutant Control	If the project discharges to waters covered by a TMDL or another pollution control plan the Design-Builder shall comply with Special Conditions S8.E.			
NPDES SW-111		D	Control Pollutants; S9.D.9.h	The Design-Builder shall assure that washout of concrete trucks is performed offsite or in designated concrete washout areas only. The Design-Builder shall not wash out concrete trucks onto the ground, or into storm drains, open ditches, streets, or streams. The Design-Builder shall not dump excess concrete onsite, except in designated concrete washout areas. Concrete spillage or concrete discharge to surface waters of the State is prohibited.			
NPDES SW-112		D	Notice of Termination	The Design-Builder shall be aware of the conditions, as stated in S10, for site eligibility for termination of coverage.			

Appendix F Circulation List

Federal Agencies
Advisory Council on Historic Pres. W Office of Review
Bureau of Indian Affairs
Dept. of Interior/Environ. Policy & Compliance
Dept. of Interior/Fish & Wildlife/Ecological
EPA – Washington D.C.
EPA – Seattle
Federal Emergency Management Administration
National Oceanographic and Atmospheric Administration (Fisheries)
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Coast Guard

State Agencies
Eastern Washington University, Archaeological and Historical Services
Washington State Department of Community Development
Washington State Department of Ecology
Washington State Department of Fish & Wildlife
Washington State Department of Natural Resources
Washington State Department of Trade and Economic Development
Washington State Department of Archaeology and Historic Preservation
Washington State Patrol

Local Jurisdictions
Pierce County
City of Edgewood
City of Fife
City of Milton
City of Puyallup

Indian Tribes
Muckleshoot Indian Tribe
Puyallup Tribe of Indians
Squaxin Island Tribe
Confederated Tribes and Bands of the Yakama Indian Nation

Other Agencies
Pierce Transit
Sound Transit
Puget Sound Clean Air Agency
Puget Sound Regional Council
Port of Tacoma

Congressional Legislator 9th District
Representative Adam Smith

State Legislators 25th District
Senator Jim Kastama
Representative Bruce Dammeier
Representative Hans Zeiger

State Legislators 27th District
Senator Debbie Regala
Representative Laurie Jinkins
Representative Jeannie Darneille

State Legislators 30th District
Senator Tracey Eide
Representative Mark Miloscia
Representative Katrina Asay

Libraries
City of Tacoma Library – Main Library
Pierce County Library System – Milton Branch
Pierce County Library System – South Hill
Puyallup Public Library
Washington State Library

Others
Friends of the Hylebos Wetlands (Chris Carrel)

CAC Members
Char Barry (Property Owner)
Ron Duris (Farmer/Drainage)
Leonard Feind (Milton Access)
Ray Hixon (Area Traffic/Safety)
Denise Barry Logan (Firwood Property Owner)
Phillip Jesse (Resident)
David P. Mahlman (Resident)
Boris Stefanoff (Fife Parks Board)
Lynn Wallace (Business/Freight Mobility)
Allen Zulauf (Puyallup Watershed Council)
Bob Myrick (Trails/bikes/pedestrians)
Nat Luppino (NW Fruit & Produce, Inc.)
P.K. MacDonald (Fife Chamber of Commerce)

Partners Committee
Michael Zachary (Port of Tacoma)
Raul Ramos (Puyallup Tribe of Indians)
Pete Beaulieu (Puget Sound Regional Council)
Chuck Ivie (Pierce County)
Allison Smith (Port of Tacoma)
Marlo De Rosia (City of Milton)
Steve Shanafelt (City of Tacoma)
Russ Blount (City of Fife)
Dave Lorenzen (City of Edgewood)
Tina Lee (Pierce Transit)

Utilities

AT&T Broadband (Aaron Cantrel) City of Milton (Richard Bronson) Puget Sound Energy (Cheryl Paras) Qwest (Joy Bateman)
Pierce County - Dept of Public Works/Utilities (Stuart Kip Julin) Tacoma Power (Thad Glassy)
Click Network (Fred Luco)
City of Tacoma - Public Works/Utility Services Division (Daniel Handa) McChord Pipeline (George Hills)
Tacoma Water (Mike Dalin)
City of Puyallup (Tom Heinecke) Port of Tacoma (David Myers) Olympic Pipeline (Kathy Reed)
Union Pacific Railroad (S.V. McLaughlin) City of Fife (Art Gregg)